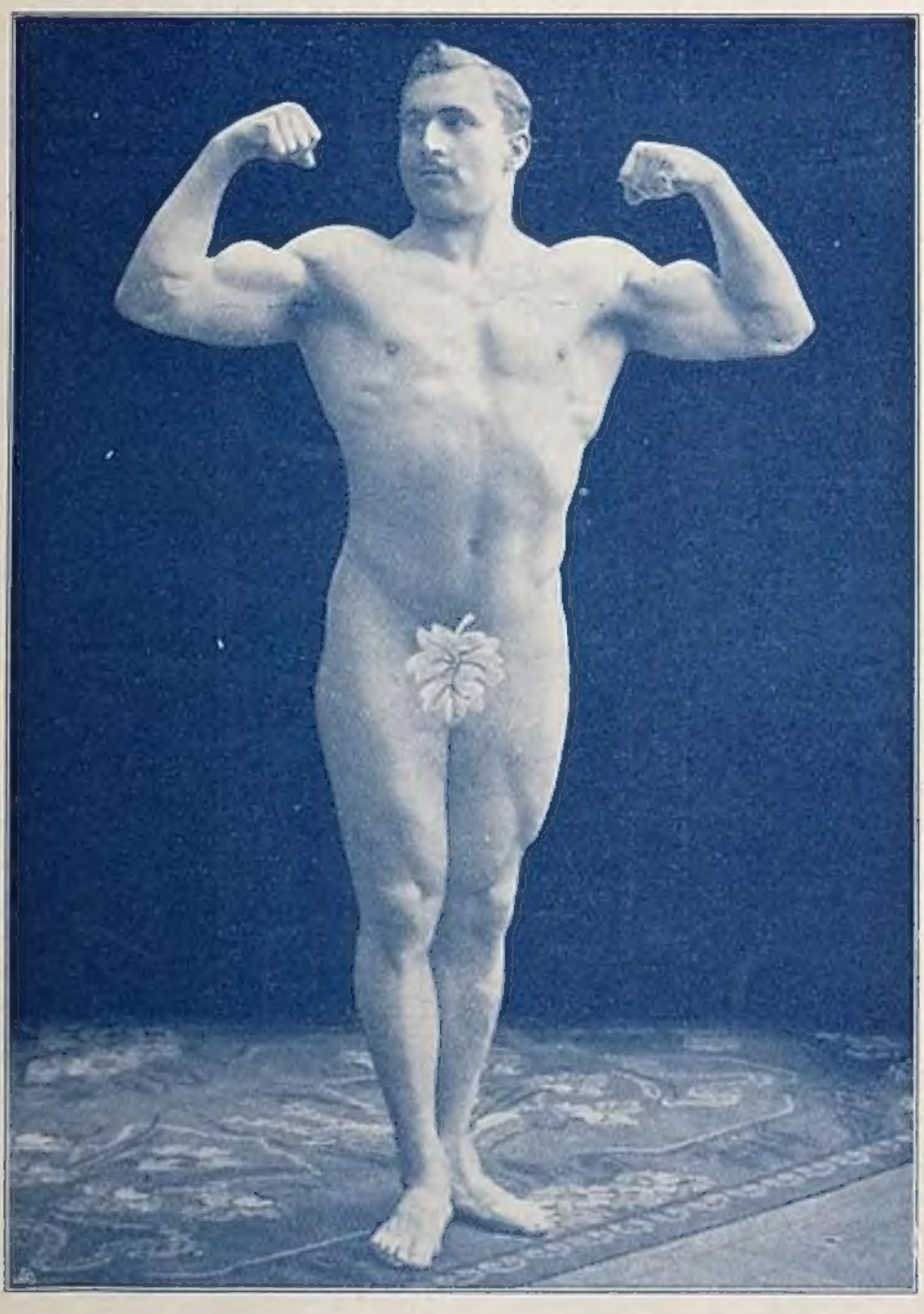
vol 16. 3

SANDOW'S MAGAZINE

OF PHYSICAL CULTURE.

2d. *January 18th, 1906.* 2d.



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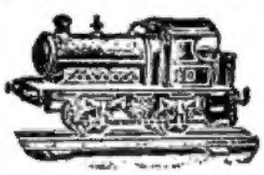

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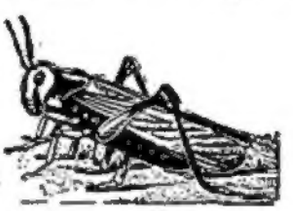

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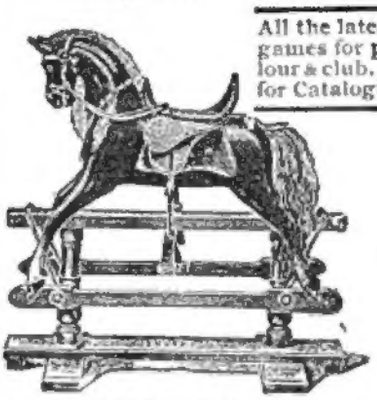

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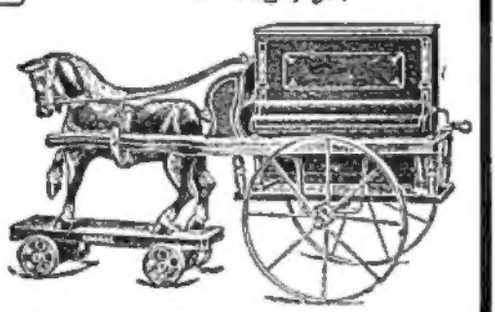

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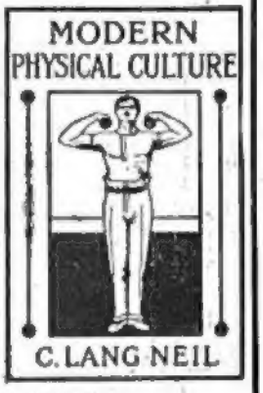

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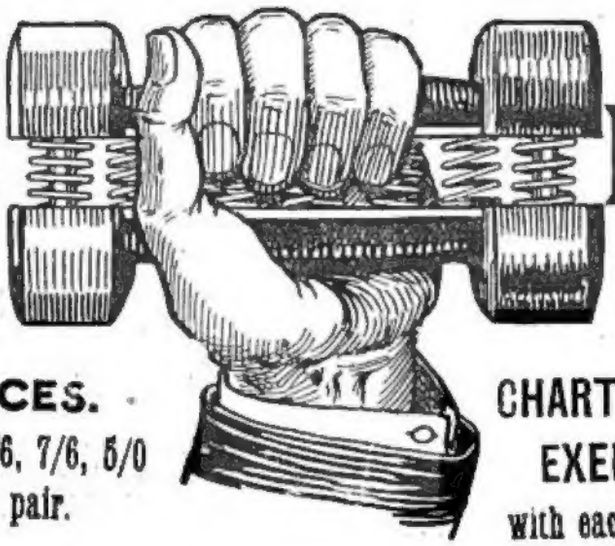

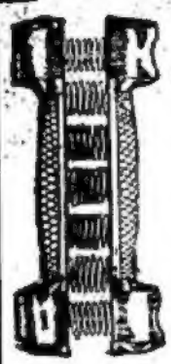

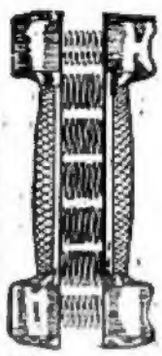

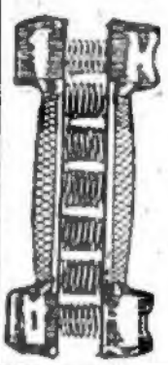

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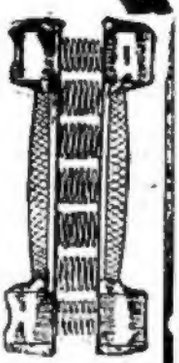

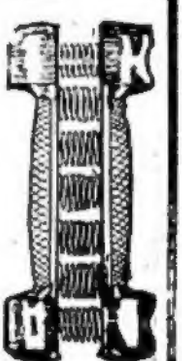

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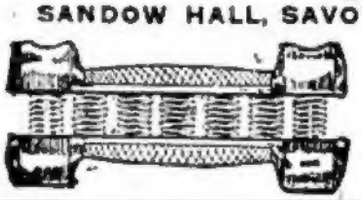

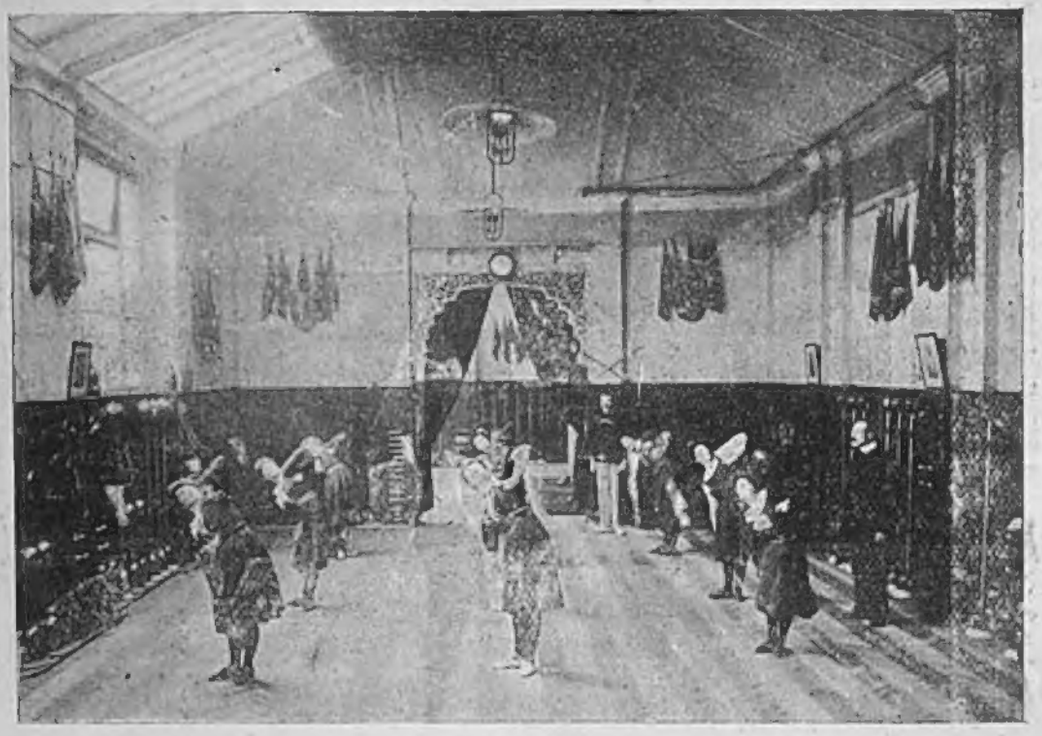

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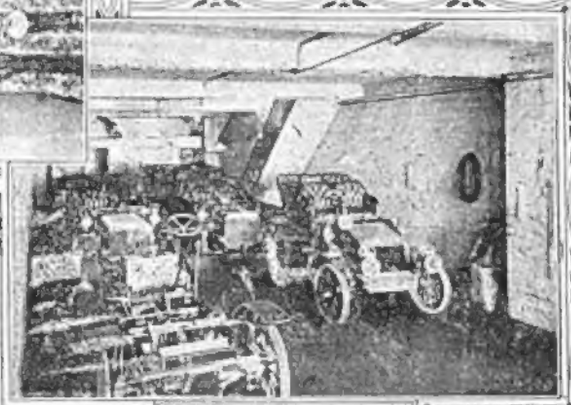
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SANDOW'S MAGAZINE
— OF —
PHYSICAL CULTURE & BRITISH SPORT.

Edited by EUGEN SANDOW. Assisted by FRANK PINK

VOL. XVI. (Established 1898.) JANUARY 18TH, 1906. No. 3.

NOTICES.

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EDITORIAL.—I am always pleased to receive Contributions, Literary and Pictorial, for consideration. Where payment is desired, the Contribution should be accompanied by note of amount required. Prompt consideration will be given and an early reply forwarded.

NOTES FROM MY NOTE-BOOK.

BY THE EDITOR.

The Nature cure for illness is evidently no new thing. I was amused in picking up a very ancient medical tome recently to read the following amusing challenge:—

"I hereby undertake within one month, without fee or reward, or medicine of any kind, and on the peril of my head, to enable any lady within the pale of the United Kingdom of Great Britain and Ireland to carry a bushel of potatoes on her head from Penny Fields to Pedlar's Acre, without resting, and that with no more pain and labour to herself than may be sufficient to spare her the out-of-pocket expense of six pennyworth of rouge."

o——o

This is the challenge, too, it may be noted, not of a theoretical fanatic, but of a fully-qualified doctor of medicine.

o——o

A very good suggestion in connection with the cultivation of rifle-shooting—certainly far too much neglected in this country—is that made by Mr. C. B. Fry, the well-known athlete, in the *Standard*. "I should like," he says, "to see a rifle-club with a full equipment of miniature ranges on every county cricket ground." This is a more sensible suggestion than the revival of ancient ideas in an attempt to suppress popular games in favour of practising shooting.

o——o

On the whole, however, I think that Lord Roberts is right, and that some form of compulsory military training is the best method of securing thorough protection to these shores. I have frequently noticed a laxity in Volunteer methods that do not augur well for the discipline of a purely voluntary force in actual warfare. England wants a larger and stronger standing army, and a nation of expert riflemen to fight her future battles.

o——o

I must congratulate Mr. P. G. Wodehouse on the popular way in which nearly all the big dailies have quoted—most of

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them in full—his interesting article on "How Boxers Train." The latest to the list is the *Manchester Courier*. I shall be always pleased to consider bright, *live*, practical articles from my readers.

o——o

Here is a useful tip for physical culturists who are out of employment—although I suppose such a thing is a *rara avis*:—

"When they attempted to introduce physical training into schools," said Col. Fox, inspector of physical education to the Board of Education, recently, "they were met by the lack of efficient instructors. While there were enough women specialists to meet the demand, we were totally lacking in expert male instructors. Given the establishment of an institution for training male instructors, the training of students in training colleges and of teachers now serving in the schools would at once solve the problem."

o——o

I have just been reading a very interesting article from the pen of a physician on the build of men who live long. The writer, however, is yet another to contend that athletic exercise is not conducive to long life, and that the majority of athletes die young. He advances all the old arguments against the dilatation of the heart, and the danger of sudden death. But statistics have always proved that athletes who have taken proper care of themselves when in active work, and who have not ceased their physical exercises too suddenly, are as likely, if not more so, to live to a good, healthy old age as anyone else.

o——o

The only danger to the man who has, all his life, been in the habit of taking regular physical exercise is that when he does renounce it, he drops it too suddenly. The sudden stoppage of a habit that has become almost a sort of second nature is always dangerous, and this holds more especially true in the matter of exercise.

Why not Both Handed?

Most people are not right-handed to the extent generally implied. Pianists, and to a greater extent violinists, give as difficult work to the left hand as to the right. Most cricketers can, at any rate, stop and catch a ball pretty much as well with one hand as with the other. In the gymnasium, even in fencing and single-sticks, either hand is practised. In boxing the left is the more used, though this may be due to the co-ordinate use of the right leg. Generally speaking, when the two hands are used simultaneously, the right has no excessive mastery. Right-handedness is a matter of degree with different people. Most surgeons are a good deal better with the left hand than men of other professions, and a great many of them bear personal witness to the benefit they owe to their ambi-dexterity.

We may, perhaps, at once grant that almost everyone would be the better for a little more control over his left arm and fingers. Let anyone attempt to write a sentence with his left hand and he will feel some sort of shame for the impotence of his will over his members. The Japanese approach more nearly than any other nation to the ideal of ambidexterity, and it is a fair inference that they owe to the training of their left hand some part of the mechanical, and perhaps artistic, skill for which they are becoming famous. The left hand is practised considerably in the education of our sailors, and it may be their "handiness" is partly the result of this training. On the whole, the educated classes are pitiably helpless in the common demands of manual work. —*Saturday Review.*

Dr. Phaker: Take this prescription; it will either kill or cure you.

Patient: But suppose it kills me?

Dr. Phaker: "Nothing ventured, nothing gained." My motto is, "No cure, no pay," so I'm taking a chance as well as you.

I am the sculptor; I, myself, the clay,
Of which I am to fashion, as I will,
In deed and in desire, day by day,
The pattern of my purpose, good or ill.
—NIXON WATERMAN.

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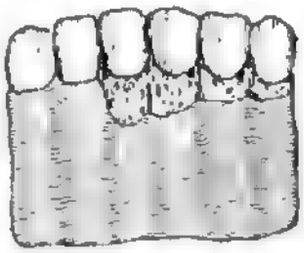
ARE WE TO BE A TOOTHLESS RACE?

By J. H. KELLOGG, M.D.

DECAY of teeth is an indication of constitutional decay. A horse-dealer would not buy a horse that had decayed teeth; he would know that that horse was losing his vitality and growing weak; and yet people offer themselves to the world as being strong and vigorous when they have scarcely a sound tooth in their heads. We find young people from twenty-two to twenty-five years of age getting married—and without a sound tooth. Such people are not fit to be fathers and mothers. Their constitutions have already begun to decay, and their decayed teeth are evidence of that constitutional deterioration.

Teeth decay just as apples, potatoes, and other fruits and vegetables decay, just as dead animals decay—through the action of germs. Germs, when allowed to take up their abode in the mouth and to develop in large numbers, form colonies upon the teeth. They accumulate in the mouth, and grow there in the form of patches. In the morning the teeth will feel rough, and will be covered with a yellow or whitish slime. This roughness is due to germs. They come from the food, the air, and the water, and feed upon the remnants of food which they find in the mouth and between the teeth.

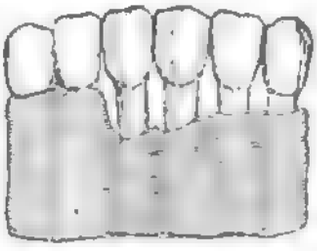
The saliva and the mucous membrane have power to destroy germs to some extent. The experiment has been made of planting deadly germs upon the septum of the nose, and in three hours they were killed by the mucous membrane. Healthy living tissue has the power to kill germs. When the mouth is in a clean, wholesome condition, germs cannot obtain a foothold there; but when fragments of meat and other particles of food are left in it, they become hotbeds for germs, which feed upon these fragments of food, develop, and prey upon the teeth. Uncleanliness of the mouth is, therefore, one reason for the development of germs. Another cause of germs in the mouth is the loss of ability in the body to destroy them, and the cause of this lowered resistance of the body is, as a rule, poor digestion. A weakened body that is losing its



HUMAN TEETH COVERED WITH TARTAR.

resistance to germs, manifests this loss of resistance as quickly in the teeth as in any other part of the body, and perhaps more quickly. The premature decay of the teeth, then, is always a sign of a weak and enfeebled constitution. Sound teeth are an indication of a sound body.

The first thing a doctor does when a child is brought to him for treatment is to examine its teeth. If a child of ten years has decayed teeth, it will be almost certain to die prematurely. Primitive people and savage tribes live to be very



HUMAN TEETH INJURED BY TARTAR.

old, and have sound teeth, some even having a third set when very old. In some of the marshes in the northern part of America the skeletons of mammoths have been found with the teeth in perfect condition, yet these mammoths have

been dead perhaps two or three thousand years. I have seen a dozen or more mummies in the British Museum with perfectly sound teeth.

These facts show that teeth ought not to decay; that they ought to be the best preserved of any structures in the body; that they ought to remain intact longer than any other part; and yet in this country we find them decaying earlier than any other structure, because of the action of germs and the loss of resistance on the part of the body.

When the teeth are sound, they are so covered with enamel as to be protected from changes of temperature and from injury from other causes. In a natural state, they are strong enough to bite hard substances without difficulty. Being protected by such a coat of mail, as it might be called, how is it possible for them to decay? The decay of the teeth is accomplished in this way: Some of the germs that form colonies in the mouth and upon the teeth secrete a substance which is capable of dissolving the enamel, and then the germs gradually work their way into the teeth. You have probably noticed old crags and rocks upon mountain tops where mosses and lichens have grown, destroying a portion of the hard substance beneath them. These mosses are capable of forming substances which can dissolve the hardest rock, crumbling it and finally disintegrating it. So it is with the germs that grow in the mouth; they are capable of gradually dissolving the enamel and crumbling it off, after which they work their way down into the teeth.

BACTERIA OF DENTAL CARIES.

The teeth usually begin to decay in the hidden parts, not upon the surface. Decay most frequently begins between the teeth because portions of food are caught and held there, and there the germs grow unmolested. Between thirty and forty different kinds of germs can live in the mouth, a large number of which are capable of attacking and destroying the teeth.

BACTERIA FOUND IN PUTREFYING MATTER.

BACTERIA WHICH INFEST THE MOUTH AND ALIMENTARY CANAL.

There is a popular idea that sugar, candies, and other sweets cause dental decay. This subject has been much discussed, and authorities are not entirely agreed upon it. While some people say, "I have eaten quantities of candy, and my teeth are sound," others say that candy has destroyed their teeth. It seems to me to be a question of digestion rather than of sweets. There are certain persons who can eat candy with impunity, because they have the ability to resist that particular cause of indigestion; but in other cases it produces indigestion, and indigestion diminishes vital resistance, thus favouring the attack of germs and dental decay.

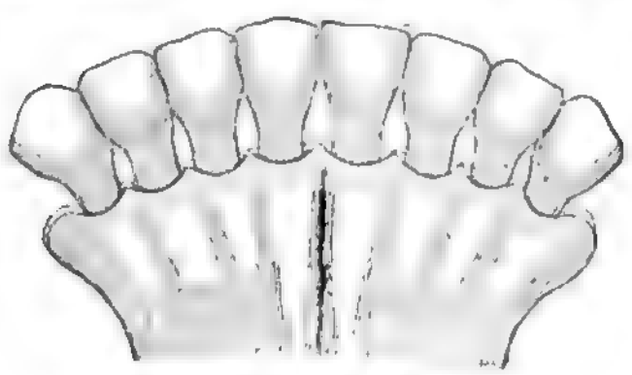
Another cause of the premature decay of the teeth is amylaceous or farinaceous

dyspepsia, or starch indigestion. This is becoming an almost universal disease among the English-speaking people. It greatly lessens the vital resistance of the body in every part, including the teeth. Germs being more numerous in the mouth than in any other part of the body, their effects are produced in the mouth and upon the teeth to a greater degree than elsewhere when the teeth are left covered with fragments of meat and other debris.

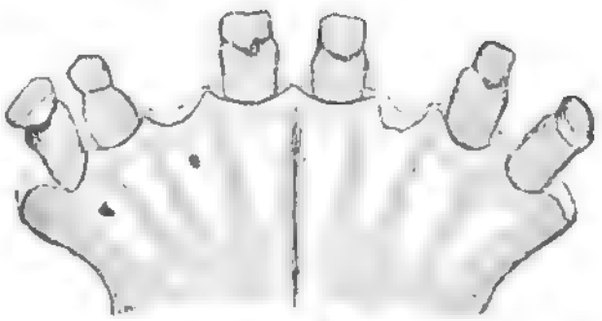
The skin soon becomes diseased when dirt is allowed to accumulate upon it. It is well known to skin-specialists that dirt is a prime cause of skin disease. If one should allow the skin to become as dirty as the teeth sometimes do, nothing could prevent the action of germs upon the skin, and it would soon succumb to their attacks. So it is not a strange thing that the teeth succumb to germs.

One of the results of the growth of germs in the mouth is a coated tongue. If a person has a coated tongue, he is sure, sooner or later, to have decayed teeth. Ice-cream is considered by many to be bad for the teeth; others are of the opposite opinion. Even some dentists try to show that ice-cream is not injurious to the teeth because it does not destroy the enamel. But while it may not hurt the teeth directly, it injures the stomach, produces biliousness and a coated tongue, thus lowering the vital resistance of the body, and exposing the teeth to destructive germ-action.

Another important cause of the decay of the teeth is the failure to furnish proper food for their nourishment. The popular idea is that there are not enough salts in our food, but the difficulty does not consist in a lack of these elements in our food, but rather in a lack of ability to absorb and digest them. Grains and nuts contain an abundant supply of salts. It is the acid of the stomach which prepares these salts for absorption; and when this is not present in proper quantity, we are unable to digest and absorb them, and thus become subject to softening of the teeth from lack of nutrition.



TEETH OF A HEALTHY COW.



TEETH OF A COW FED ON DISTILLERY SLOPS.

It is supposed that phosphate of lime and carbonate of lime are necessary for the teeth, because, when the teeth are burned, these elements are left. It is thought that we do not get a sufficient quantity of these elements in our food, hence doctors prescribe doses of them for the teeth.

Last year I made a study of a hundred cases of persons, some of whom had hypopepsia and others hyperpepsia. Careful examination was made of their stomach fluids and of their teeth, and it was found that those who had hyperpepsia had twice as many teeth left as those who had hypopepsia. The conclusion from this examination was this: in hypopepsia the stomach has lost the power to make gastric juice and to destroy germs, hence this condition is more favourable to the decay of teeth than hyperpepsia, in which there is an excess of hydrochloric acid in the stomach, therefore a good ability to destroy germs, and to disinfect the food.

There is no doubt that the use of flesh food is one of the chief causes of dental decay. The reason is, that little particles of meat get between the teeth, and encourage the growth of destructive germs. The germs that destroy teeth are the same as those that cause the decay of flesh. It is better not to have dead things of any sort lying around in the mouth for

the subsistence of germs, but to keep it entirely clean and free from fragments of dead animals; and that can be most easily accomplished by putting nothing of the sort into the mouth. The monkey is a vegetarian, and has sound teeth, so I recommend persons who wish to have healthy teeth to live on the monkey's diet —fruits, grains, and nuts: there is nothing healthier.

A vegetarian diet is, without question, conducive to the development and preservation of the teeth, because, first, it excludes meat; and secondly, it gives us food in proper condition for the use of the teeth—food that requires thorough mastication. The teeth need exercise, and a vegetarian diet gives them healthy and normal exercise. Flesh food does not usually require much mastication. Our teeth are not adapted to eating flesh, but to the cutting, crushing, and grinding of grains, fruits, and nuts.

BACTERIA FOUND IN THE MOUTH.

People generally eat too much soft food. If we could banish spoons and forks from our tables, so as to be compelled to take all our food hard and dry and from the hand, as we now take bread, it would be much better for the race. I am satisfied that lack of use is one cause of the premature decay of the teeth.

In order to preserve the teeth, it is necessary to use them. In the famous Mammoth Cave, there are fishes that have no eyes, or mere rudiments of eyes. They have gradually wasted away from non-use. There are strong indications that the people of the United States and Great Britain are in a fair way to lose their teeth in the same manner, from lack of use, and to become in course of time a toothless race. In New York City it has been found that the teeth of the cows of the distillery dairies, which live on distillery slops that do not require mastication, are almost entirely gone. The teeth should be scoured by rubbing against hard food that will polish them. A wagon tyre is kept clean and bright by constant movement and by coming in contact with the hard ground; machinery is kept in good condition by constant use and friction. So when dry food comes in contact with the teeth, it scours them, keeps them clean, and preserves them. I know of nothing better adapted to this purpose than the dry crusts of hard bread.

People are likely to be reckless in regard to losing their teeth. Never lose a tooth if you can avoid it. I have known some people to have sound teeth taken out in order to have some new and handsome "artificial teeth" put in. That is the greatest possible mistake. Keep your teeth as long as you can, even if they are not handsome. Get them filled as soon as there is the slightest decay perceptible.

To lose a tooth is to lose a part of one's life. We are not aware how dependent we are upon our teeth for our physical welfare, because we do not stop to think what a beautiful apparatus they form for grinding our food. The mouth is a mill formed upon the "gradual reduction" plan. Our front teeth furnish an apparatus for cutting the food. The side teeth, the cuspids, or cutting teeth, are sometimes improperly called "canine teeth," or "dog teeth," and some people argue that because we have "dog teeth," we must be carnivorous animals. But these teeth are not "canine teeth"; they are made for cutting the food, while the dog's teeth are constructed for the purpose of tearing and "hetcheling" food. Then we have the bicuspids, or small molars, by which the food is made still finer; then the molars, or multi-cuspids, including the "wisdom teeth," which complete the grinding process. So, when we speak of the mastication of a morsel of food, we mean that it is first cut by the front teeth, then passed a little farther back in the mouth to the small molars, or bicuspids, for further grinding; then still farther back to the molars for completion of the grinding process. The food is thus worked farther and farther back in the

mouth, and ground up finer and finer, until it gets behind the "grinders," or molars, and then it is close to the throat and ready to be swallowed, having been sufficiently masticated.

While the food is being ground by the teeth, it is the duty of the cheeks to keep it between the teeth, first upon one side and then upon the other, thus giving one side a rest while the other is at work. But in order that this may be done, the upper and lower teeth must fit. If there is a tooth gone, when a coarse particle of food comes along to that place, it drops down into the empty space, and is not properly masticated. These coarse portions of food slip into the throat, and are swallowed into the stomach in an improper condition, and make trouble. A person suffers from the same cause if his teeth are not in perfect apposition, because, in that case also, the food will slip into the stomach without being properly masticated. Such a person cannot masticate his food sufficiently, unless he chews it all in front, which few are willing to do. If the teeth are defective upon one side, then the person must chew his food altogether on the other side; but this will certainly wear out the teeth on that side, and give rise to new difficulties.

There is another argument for taking proper care of the teeth: If a tooth is gone upon one side, Nature tries to remedy that defect by gradually approximating the remaining teeth; so they keep coming nearer and nearer together until the shape of the jaw is changed. If several teeth are lost, the shape of the jaw is so changed that the face is materially altered. The change produced in the appearance of the faces of elderly persons in consequence of the loss of teeth, is very marked. Thus defective teeth cause greater or less deformity, altering the appearance and expression of the face.

The teeth can be kept clean by the use of pure soft water—distilled water, if possible—and a brush. These are the only essentials, if one regularly maintains the habit of cleaning his teeth after every meal. Rub vigorously not only the front teeth, but all the teeth, including the back ones, which are the most important; they should be rubbed and polished until they feel smooth to the tip of the tongue. If not perfectly clean, one should have them cleaned by the dentist; and when they are once smooth, take good care to keep them so.

If the teeth have been neglected, it is advantageous to add something, as precipitated chalk, to the brush and water. But do not use the ordinary dentifrices or soap. It is well, ordinarily, to use an antiseptic. The best of all antiseptics is cinnamon oil, or some preparation of this oil. To prepare cinnamon water, take a teaspoonful of cinnamon essence, add four ounces of water, shake thoroughly, and allow to settle. The oil which does not dissolve will settle to the bottom. If the water is then turned off, it will be well saturated with cinnamon. This is a perfect germicide.

The proper course of life for one who wishes to enjoy the use of sound teeth in old age may be summarized as follows:—

Live temperately in all things; adopt a dietary of fruits, grains, and nuts; eschew meats, cheese, condiments, pickles, and all unwholesome foods, so as to preserve sound digestion; eat dry food, and especially thoroughly cooked cereal foods, so as to avoid farinaceous dyspepsia and indigestion; hard-baked unleavened breads of all sorts are to be commended; soups, mashes, gruels, and soft-grain preparations are all imperfectly cooked unless they have undergone previous preparation; soft, imperfectly cooked cereal foods are a most prolific cause of indigestion, and hence of general decay, as has already been pointed out. Make free use of nuts and nut products. The system must be constantly supplied with a sufficient amount of fat, and if animal fats are discarded, it is difficult to obtain the requisite supply without resorting to nuts, which afford these elements in the purest, most digestible, and palatable form.

To maintain a good digestion and a high state of vital resistance, take vigorous exercise out of doors daily and a morning cool or cold bath.

Sergeant Robert Daly, who stands 6 ft. 8½ in., and is the tallest man in the Royal Irish Constabulary, has retired on a pension.

A National Danger.

IN 1904 137,490 children under one year old died in England and Wales alone, and in an article in the January *Pearson's Magazine* many experts record their views on this appalling figure. There is an almost unanimous concensus of opinion that nearly half of these 137,000 lives are lost unnecessarily. All those interested in the subject should read the article in full; we can only quote a short paragraph from it here:—

"A novel scheme for assisting mothers to understand their children was put into force a little more than a year ago by Mr. Benjamin Broadbent, the Mayor of Huddersfield, who is brother of Sir William Broadbent, the distinguished physician. He promised to give, in respect of every child born in the suburb of Longwood during the year of his mayoralty, a promissory note for £1, payable to the mother of the child on its first birthday, if it lived to reach it.

"Describing the evolution of the scheme in *The Municipal Journal*, Mr. Broadbent wrote:—

"'I am bound to confess that I was getting well-nigh in despair of doing anything at all for the babies, when there came to me the offer of the mayoralty. I considered that it is by no means unusual for a mayor to take up some special work during his year of office, and I at once determined that, if possible, I would do something in regard to infantile mortality.

"'It was not at all easy to find a satisfactory method of doing anything practical. The idea of a premium was familiar to both Dr. Moore, the M.O.H. for Huddersfield, and myself, from a most useful and interesting report as to the year's death-rate of the small commune of Villiers de Due, in France, where the *maire* gives a premium of 2fr. per month when the child reaches the age of twelve months. I felt, however, that to merely promise a premium on the child attaining the age of twelve months would be very ineffective to bring about the result desired.

"'The proper time to secure the child's welfare is to have the mother's help from the very first, and I could not at first see quite how I could make a premium effective in preventing the child's death, which was what I wished to do. Then there came to me the happy thought of giving to the mother, as soon as the child was born, a properly legal promissory note, payable twelve months after date; and on the note I thought I might get in some good advice. At this stage, with the help of my own wife and Dr. Moore's, the whole scheme suddenly dropped into definite shape.'

"A little ornamental card—gold, blue, and red—was designed, having in the centre the golden rule for the life and health of the baby, and beneath this the promise to pay the bounty. A small committee of ladies undertook to deliver the cards as required, and to inspect the babies.

"When Mr. Broadbent was re-elected last November as Mayor of Huddersfield, he announced the results of his scheme for the year past. The actual number of babies reared according to the conditions was 110. In the last eight months of the year only one child had died. The infantile death-rate in the Longwood district, to which the scheme only applied, was 54 per 1,000, as compared to an average for the whole borough of 144. The Mayor's benevolent scheme, therefore, proved a distinct success—Mayor and Mayoral babies are to be heartily congratulated."

Town and Country.

An Italian economist, quoted by a French contemporary, has made an interesting estimate of the proportion between town dwellers and country dwellers in the principal countries of the world. Here are his figures:—

	Population.	
	Town.	Rural.
Austria	9,993,030	16,157,672
France	15,025,812	23,492,163
Denmark	958,005	1,490,635
Bavaria	2,448,037	3,728,020
United States	30,638,322	45,573,846
German Empire ...	30,633,075	25,734,103
Prussia	10,144,600	15,327,000
Belgium	5,023,468	1,670,080
England	25,058,355	7,469,488
Scotland	3,580,204	885,809

It will be observed that the proportion of country dwellers is 61 per cent. in France, 46 per cent. in Prussia, and 45 per cent. in the German Empire.

THE EDITOR (EUGEN SANDOW) TAKES A DEEP INTEREST IN JUVENILE PHYSICAL CULTURE.

SIR JOHN GORST'S SCHEME FOR THE PHYSICAL BETTERMENT OF THE MASSES.

By J. St. A. JEWELL,

Author of "The Loss of the Malpasia and other Sea Stories," etc.

I ONCE heard a "hustler" from New York complain of the inaccessibility of our City magnates. He had a "proposition to handle," and when he called on a man he expected to be received. Like many another man before him, he found that his greatest difficulty was to get into personal touch with men in the absence of a letter of introduction. This is how *he* put it:—"I write to a man, sending him the fullest particulars of the business, and tell him I'll call on him at such-an'-such a-time. When I call—does he see me, sir? I guess not! No! I'm referred to the fourth Under-Secretary of the Office boy's Power of Attorney, and I'm honoured if *he* gives me two minutes. If I have luck, I may get the fourth Under-Secretary himself in six months; but what's the use? By that time my heart's broken, to say nothing of my option on the business having run out. Say—take it from me—th' time 'll come when all you people here 'll have to see men when they want to see you—it's a style you've *got* to adopt."

The American's complaint holds good to-day in respect of the majority of Englishmen who hold high positions in the worlds of politics, science, commerce, and art, but—there are exceptions.

Sir John Gorst is one of them. When I wrote him and requested an interview for this magazine, he replied by return of post suggesting an appointment, and asking if it would suit my convenience. For this courteous consideration I embrace the opportunity of putting on record my gratitude.

Following out his suggestion, I called at his club, and in less than a minute after my card had been taken in Sir John was bidding me welcome.

"You wish to interview me with regard to National Physique, do you?" he asked, with a smile. "Now what are the particular points upon which you wish me to touch?"

"First," I said, "I should like to know what Parliament has done to better the physique of the nation."

"I'm afraid they have not made much practical progress," said Sir John. "Some two years ago the Government appointed a Committee of distinguished officials to investigate, with the view of subsequently having a Royal Commission on the subject. The Committee took a great mass of evidence, and presented a report, which was laid before Parliament in August, 1904. I may mention that I was one of the witnesses they examined. Unfortunately for results," he said with a twinkle in his eye, "Governments appoint many committees, and then, when they have done their work, the object for which they carried on their investigations is—er—forgotten."

"Do you suggest," I asked, "that lapse of memory will apply in this case?"

But he didn't answer. Instead, he looked over the tops of his gold-rimmed spectacles and laughed.

"What is your own opinion as regards the National Physique, Sir John?"

"In the well-to-do classes," he said, "I think it is very good—excellent, in fact. If you look thoroughly into the matter, you will probably find that it is directly traceable to participation in sport. This applies to women as much as men—perhaps more so. Years ago, in my young days, it was considered indelicate for ladies to go in for athletics of any kind, and the most violent exercise they ever indulged in as regards outdoor amusement was a mild game of croquet. Now, all that is changed. The girl of to-day rides, shoots, golfs, cycles, rows, and plays tennis—in fact, she goes in for every kind of sport. All this has had a good effect, and, physically, the modern girl is a much better woman than her grandmother."

"And what about the poorer classes?" I asked.

"That is another matter. The physique of the poorer classes leaves much to be desired."

"Do you think it compares favourably with that of other nations?"

"Candidly, I do not," he said, "if you mean by 'other' nations, Continental nations."

"May I ask you, Sir John, on what that opinion is based?"

"Certainly," he said. "You must recollect this in reference to Continental nations. Their very existence depends on their keeping up an efficient Army. Every man must serve under the conscription laws, and the physical training he is compelled at school and in the ranks to undergo vastly benefits his physique. To appreciate this, let me give you a parallel case. Take a lot of hobbledehoys, and put them in the Guards. Examine them after the drill sergeant has had them in hand for three months. There is a vast difference, is there not? Now, this difference is not merely one of bearing and gait by any means. You will find that the physical training they have gone through has put muscle into them and straightened their joints. Carry that training on for the same time it is carried on by the Continental nations, and then let the men slip back into civilian life once more. You would find that the period of training would leave marks on the men for the rest of their lives, no matter how they lived. Then take the women. Here in England a woman, say, works in a factory. She becomes a mother, and, instead of taking adequate rest after childbirth, generally goes to work a week or two after her child is born. This sort of thing, which is common here, is, of course, bound to have a deplorable effect on the mother physically, and the trouble does not end *there*. The child that should be suckled is left to the tender mercies of perhaps another child ten or twelve years of age, and is fed on indigestible scraps. If the poor could get pure cows' milk it would not be so

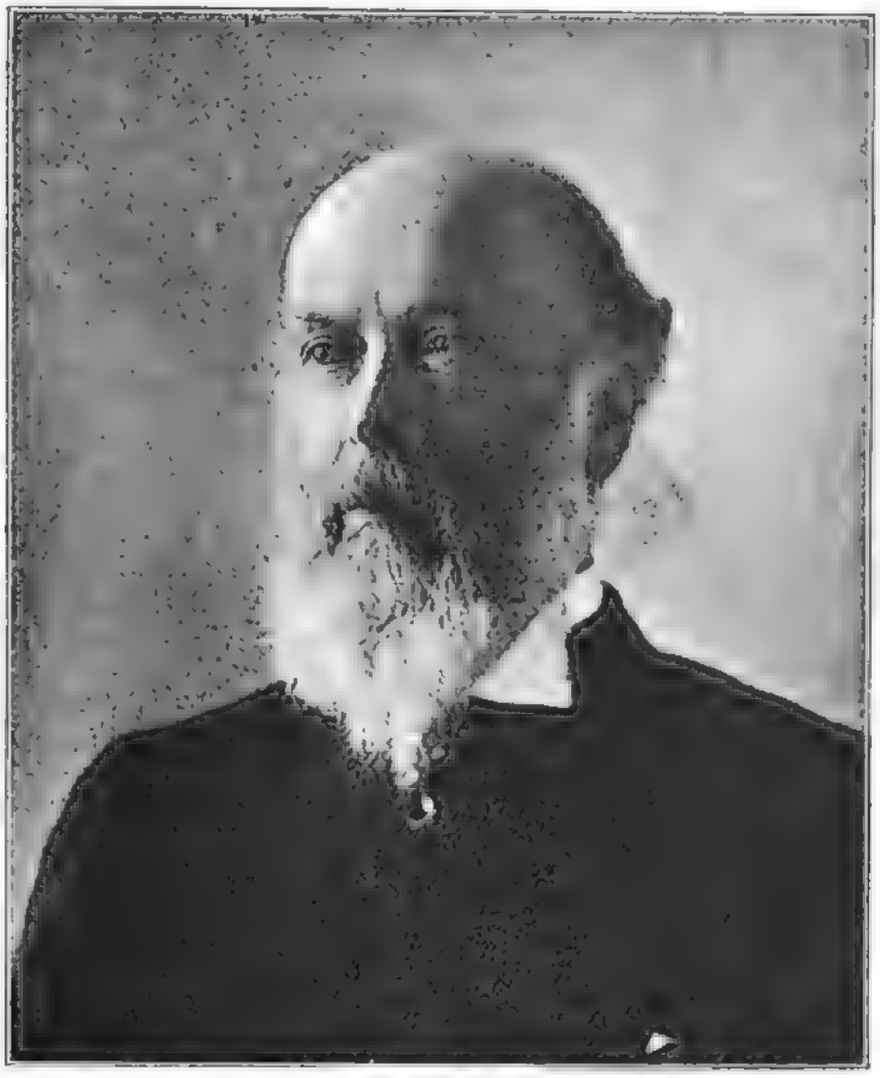
bad, but milk is scarce and is *not* pure. There you have the pitiable spectacle of one of the fathers or mothers of the next generation being wrongly fed from birth. In the process of time all this has its effect, and that effect you can see any day in the streets in the pale, anæmic faces of many of the working classes."

"And does not the same argument hold good in respect of Continental women, Sir John?"

"That is rather a large order, isn't it?" he asked.

"I must confess it is," I answered, "but I should like you to answer it all the same."

"Well," he said, "it might be worked out somewhat on *these* lines. First, a medical examination when the children join school. Those who were found degenerate could be dealt with by the Local Authority; but the best way



SIR JOHN GORST.

"No," he answered "except in a very small degree. They have very stringent laws regarding the care of an infant by its mother, and these laws are strictly enforced."

"If you, personally, Sir John, were asked to formulate a scheme for the physical betterment of the masses, what would the chief points in that scheme be?"

of doing so would, of course, have to be determined after due deliberation, for the question is a large one. Having segregated the weak, ailing, and diseased from the strong and healthy, the children should be put through a course of physical training, which should form a part of the school curriculum. This should have the effect of maintaining their health. After school, when they entered

business life, they should be encouraged to go in for athletics in some form or other—volunteering for instance. How to maintain health through life, apart from exercise, is a phase of the question which involves many things—fresh air, pure water, and all those matters relating to hygiene, which will readily occur to you. Perhaps the four principal points of the scheme would be:—

"(1) Medical examination on joining school, and periodical medical examination afterwards.

"(2) Instruction of mothers in the care of young children from birth onward.

"(3) To provide for an adequate supply of absolutely pure milk for feeding purposes.

"(4) To have the physical condition of all school children watched and cared for by the local authority."

"Is not Battersea carrying out your second and third suggestions already?" I asked.

"Yes, I believe it is. Incidentally, I am under the impression that the business is not yet a paying basis, and that the ratepayers are grumbling. *They* say that the authorities have exceeded their powers."

I suggested that the position of the ratepayer was somewhat like that of a shareholder at a company meeting when the balance was on the wrong side of the profit and loss account. Sir John laughed, and then said

"Of course, the scheme would have to provide for full powers to be given to the authorities to carry it out."

"Are you in sympathy with the Physical Culture movement?" I asked.

"Yes, I am, most certainly. Moreover, you must thoroughly understand that I am in sympathy with athleticism. Athletics teach temperance and self-control—two admirable qualities—the more so if strict training is gone in for."

"Thank you," I said.

"There is, of course," he continued, "this to be said. Athletics overdone are a mistake. To let them interfere with business or profession is wrong. They should be taken in moderation, when good results are bound to follow."

"Do you agree with the idea that great athletes are seldom great scholars?"

"No, certainly not. That is a fallacy. In my time at college nearly all the best athletes were also the best scholars. For example—there was Bishop Selwyn, a brilliant scholar and a fine athlete. He rowed stroke in Cambridge University boat with a regular crew of Bishops. At least," he added, laughing, "many of his crew became Bishops later in life. Then there was Webster—Lord Alverstone, the present Lord Chief Justice—he was another athlete; one of the finest runners, the champion of the 100 yards course. I could cite other cases—many of them."

"And his Majesty's Forces, Sir John; do you think that their physique is as good as it might be?"

"The Navy—yes!" he said. "The Navy couldn't be better. They're splendid fellows. You see, they take them as boys—catch them young—and they train them all the time. What with plenty of exercise, good food, and fresh air, they make them into deep-chested, strong, and healthy men. Moreover, they can pick and choose, for there are always more applicants than recruits wanted."

"And the Army?"

"Well, they're not as good as the Navy."

"How do you account for that, Sir John?"

"They're men grown before they enlist," he answered. "Perhaps that's at the bottom of it. The faults of youth cannot be eradicated easily once manhood has been reached. Another reason is that the Army cannot afford to pick and choose. They have to take what they can get, because the number of men offering their services is seldom up to the number wanted."

"Am I to take it that the Navy is more popular than the Army? If this is so, how do you account for it?"

"Yes," he answered, "the Navy *is* more popular than the Army; there's not the slightest doubt about it. It is due to many reasons—most of them sentimental. Tradition has a lot to do with it in my opinion. The traditions of the

British Navy are perhaps the finest of any service in the world. There is this peculiar fact in respect to the popular preference for the Navy over the Army, too, and it is worth noting. Families who have sons in the ranks are often rather ashamed of it. If their sons are in the Navy it's another matter. They're proud of the fact, and not only admit it, but never lose an opportunity of advertising it."

"And now, Sir John, I want to ask you a question of a purely personal nature. Do you take any regular exercise, and, if so, what is it?"

"Well, I'm a bit too old for throwing dumb-bells about," he said, "and I'm rather handicapped for sports on account of my eyesight, which is not all it might be."

It was on the tip of my tongue to offer a suggestion, but he forestalled me.

"Still," he said, "there's always golf, you know." Both he and I laughed heartily, for the joke, though anything but new, is always fresh.

"I usually exercise on my bicycle," he went on. "I've been a cyclist now for ten years, and during that time I have toured a good deal in France, Switzerland, Germany, and South Bavaria. I look upon cycling as an excellent exercise."

I feared I was detaining him, and said so.

"I *am* rather busy," he said, glancing hastily at his watch.

So he bade me good-bye, and I left the broad portals of the club, and walked on in the dismal rain through the heart of London.

The interview had placed me in possession of some satisfactory knowledge. Briefly, it was this. The physique of the nation is not what it might be, but it might be bettered. Also, that one of the leaders of thought fully appreciated the value of the Physical Culture movement.

Let us hope that the time is not far distant when Parliament will REMEMBER, and take the necessary steps to carry out the recommendations of the Committee it appointed to look into the state of our National Physique.

The Tongue, and What It Tells.

THE PENCILS' TEST OF THE NERVES.

FROM the time of Hippocrates, called "the Father of Medicine," the tongue has been considered a most important guide to the physician who would determine the physical state of his patient. In the old times there was supposed to be mysterious sympathy between the tongue and the condition of the alimentary canal. I can remember the time, not more than twenty years ago, when a white tongue was looked upon as a sure sign that "the stomach was out of order." Then the proper thing was to dose the unfortunate patient with salts or senna.

Now, of course, such treatment was absurd, but the study of the tongue had a good effect, in that it led doctors, and, to some extent, the public, to appreciate the value of the tongue as a means of finding out the patient's condition.

After much careful research it was found that among the most important indications of the tongue was not its colour but its moisture. The saliva is a fluid, the presence or absence of which is a most important factor in the diagnosis.

If your mouth is dry, it is a bad sign. It means a suppression of the saliva, and the suppression of the saliva is always accompanied by suppression of other fluids more important—the gastric, the pancreatic, intestinal, and other juices. Such suppression of these fluids means serious interference with the performance of all the vital functions, and if habitual, must lead to disease. The "dark brown taste" which is so often joked about as being the sequel to a night's dissipation—the eating of too much food and the drinking of alcoholic liquors—such a condition of the mouth and tongue is really an indication of a serious disturbance of the secretions of the body.

Dryness of the mouth and tongue is often produced by the use of drugs. It is, for instance, one of the classic signs of morphine poisoning. As a rule, however, the habitually dry tongue may be taken as a symptom of a greater or less degree of stomach and intestinal inflammation.

Then we have the white tongue. This also is to the skilful physician a most important sign. The very white tongue is found mainly in acute fevers. The tongue white nearly but not quite up to the edges, is one of the most striking hints to the physician.

The red tongue may be either dry or moist. The dry, red, smooth tongue—the "beaf steak-tongue" of the old-time doctors—is found mainly in the advanced stages of wasting diseases.

The furred or shaggy tongue is an indication of many diseases. It is a usual accompaniment of cancer of the throat. Then there are two distinct signs of the tongue that we must not forget, the "strawberry" tongue, and the brown tongue. The "strawberry" tongue is thinly coated, tender, and in colour a bright red, whence the name, "strawberry tongue." It is mainly noticed as a diagnostic sign of "scarlet fever" as well as certain other acute conditions.

The brown, dry tongue is the tongue of the "typhoid state," though by no means limited to "typhoid fever." This is the tongue usually connected with the protracted diseases of prostration and failing vitality. There is little or no secretion of saliva, and therefore the mouth is dry and the mucuous lining of

the entire mouth and tongue is harsh and of a peculiar brownish colour.

Any of these changes in the tongue may be considered as a "red light," a warning signal that something is wrong.

The breath also is valuable as an indication of disease. It may be too fast, too slow, irregular, forced, interrupted, or, lastly, it may be of an offensive odour. The rapid breath may be, and generally is, due to false mental attitude. Worry, excitement, "hustle," dyspeptic disturbance—these are among the most frequent causes of an accelerated respiration.

When the breathing is slow, with slow, heavy heart stroke and flushed face, the condition is apt to be serious—probably arising from auto-intoxication. Such symptoms frequently lead to fatal termination from what is commonly known as auto-toxemia.

Irregular, forced, or interrupted breathing are usually signs of a neurasthenic state of nervous prostration. They mean weakness and irritability of the great nerve centres from which the breathing impulse starts.

As to the odour of the breath, it may mean any one of several things—decayed teeth, disorder of the lining membrane of the mouth, or indigestion. In any event, all these signs are of significance, for each of them marks a dangerous spot on the road of health.

One of the most common of the "danger signals" is lack of ability to hold the limbs, head, or body steady. Tremulous motions always mean failure or derangement of the nervous system. Take two sharpened lead pencils; hold each by the end, and try to bring their points close together. If the points of the pencils can be brought close together without trembling the nervous system is in good order. If the points "goggle"—if you find difficulty in keeping them close together without their trembling—then you need attention. Tremulous motions are always a bad sign—a sign that the nervous system needs attention. Inability to hold the body steady is a significant "red light on the road to health."

DO WE TAKE TOO MUCH EXERCISE?

Two Sides of an Important Question.

[My readers will be interested in the two points of view expressed in the following articles by two distinguished physicians. Dr. Kingscote has paid particular attention to diseases which are generally said to be associated with great physical exercise. Dr. Hart has had wide experience amongst large bodies of men as Divisional-Surgeon to the Metropolitan Police, and has thus had good opportunities to study the advantage of physical training. Both these contributions are reproduced from that interesting publication, the *Grand Magazine*, and I shall be pleased to have the opinions of my readers on the subject.—EDITOR.]

I.—YES. By Dr. KINGSCOTE, M.B., C.M.

THIS is an age of hurry. We hurry over our work, we hurry over our play; there is no leisure. So much has to be crowded into so little time that we have few opportunities of attending to our mental and physical requirements. Concentrated foods, which require little time to eat and less time to assimilate, are advertised everywhere; and there are many inducements to take our exercise in a concentrated form also. This is all wrong. Nature will not be hurried. If we attempt to hurry her she will exact her debt to the last farthing!

As a rule the ordinary surroundings of a man's occupation present ample opportunities for taking sufficient exercise—that is to say, as much exercise as is good for him. We must remember that brain-workers take a great deal out of themselves, and are by no means fitted to take as much physical exercise as others who have not so many calls on their intelligence.

It is a frequent ambition of to-day, however, to acquire a muscular development, which is not only unsuited to our surroundings but unnecessary in the present state of efficient police supervision. The puny clerk contracts his meagre biceps in front of the mirror, and is straightway fired with an ambition to become an Apollo Belvedere. He is

assisted thereto by the many invitations to "physical culture" which he sees around him. This is an age of physical culture and cultured physics.

There is massage for the face, massage for the eyes, massage for the abdomen, breathing exercises for the chest, and Christian Science for the credulous! I have nothing to say against these things *per se*, but I wish to sound a strong note of warning against their indiscriminate employment. These royal roads to muscular development are often undertaken after a long day's work, when the body and the brain are tired, and, therefore, unfitted to undergo any unwonted strain.

Further, they are frequently undertaken by individuals physically unsuited to undergo them. Last year a member of my club was telling us what wonders a certain renowned physical culturist had done for him, and, in order to demonstrate his recent acquired agility, he dashed upstairs, two steps at a time, and —fell dead at the top! Poor fellow, he died from an over-strained heart.

Those of us who have seen the finish of a closely contested boat-race must have been struck by the distressed appearance of some of the over-strained rowers—the face livid, the breathing in gasps, the over-taxed oarsman falling over his oar into the bottom of the boat, or even over its side into the water. Such is by no means an infrequent occurrence after a closely contested race. I examined the heart of such an oarsman once at Henley, and found it to be enormously dilated. The dilatation went back in the space of about twenty minutes with the aid of rest and brandy; but there are very many instances in which the heart does not quite recover itself. The condition then becomes a chronic one and exerts a baneful influence on the individual.

It must also not be lost sight of that man has a wonderful and innate faculty of adaptation to his surroundings. He possesses this in a degree far superior to any other species or genius of living animals. Just as he can suit himself to infinite variations of climate or food, so he can also to various occupations and modes of life, sedentary or otherwise. The point here is that in so doing he does not lose health. Though an occupation be sedentary it is not necessarily unhealthy. Hence brain workers who, be it noted, have never much time for systematic exercise, often enjoy excellent health—far better, indeed, than the so-called athletes. It is a curious fact, but an undoubted one, that blacksmiths die in a larger percentage than any other class of men, while prize-fighters in old days were notoriously short-lived.

Thirdly, it is a matter of common knowledge that in many individual cases exercise does not appear essential to health. Many or most brain-workers, will tell you they feel really better the less exercise they take. One very distinguished physician, who spends much of his time in sick rooms, and even more in a close carriage, informed the writer he was always in better health the less bodily work he did. There is also the example of one well-known politician, Mr. Joseph Chamberlain. We have no desire to intrude on the reserve due to private life, but we believe it is well known that the right hon. gentleman, who enjoys exceptionally good health, and does as much work as any man in his Majesty's dominions, takes little systematic exercise. The historical parallels of Dr. Johnson, Gibbon the historian, Diderot the encyclopædist, not to mention innumerable political prisoners and others, who underwent long periods of close captivity, might also be cited. The costumes, too, of mediæval times and on into the eighteenth century were wholly inimical to much exercise. The men spent their days clad either in armour or decked out in Court millinery, so that much vigorous movement was impossible.

I maintain, therefore, that the tendency is to take too much exercise rather than too little. If you pay too much attention to the development of the body, the intellect and the soul suffer, and you produce Rudyard Kipling's "flannelled fools at the wicket and muddied oafs at the goal," individuals who give themselves up to athletics to the exclusion of all those mental attainments that differentiate man from the brute.

II.—NO. By LORIMER HART, M.B., C.M., &c.

It is undoubtedly a fact that most of the world's work is done sitting, because most of it is brain work. The merchant at his desk, the lawyer at his office, the seamstress over her seam, the great army of pedagogues, clerks, and penmen all lead, and have to lead, essentially sedentary lives. They have, under modern conditions of existence, little time or opportunity for physical exercise.

It is just because the majority of men have to work under conditions so unfavourable to physical development and so adverse to health that outdoor sports find at once their apology and justification. Very recently, indeed, there has arisen a quasi-reaction against athleticism. But it has been a half-hearted and unreal one. Rudyard Kipling—a name, indeed, to conjure with on both sides of the Atlantic—has coined the phrase, "flannelled fools." It has had a sort of vogue; but surely, in most cases, the fools are not so much those in flannels as those who stand looking on and shivering, perhaps, in their greatcoats.

It is interesting to note, in this connection that all great nations claim to have some one or more national game. Thus, in England, cricket, football, and rowing are supreme. In the United States, baseball, and in Canada, lacrosse, take, to some extent, their places. In France, fencing has been developed so scientifically, and is practised so universally, that it may fairly be counted a national pastime. In Germany there are gymnastics, and in Italy the ancient game of handball. In many European countries also there is compulsory military service, which ensures for a large section of the population systematic muscular training. If, then, as we maintain, the modern cult of athletics is likely to be so beneficial, we may fairly ask, in what way it will do its good work? The answer is not difficult to find. Athleticism works by inducing—nay, even compelling—a man to take the exercise which is necessary. And here, again, other questions arise of how and why is exercise so useful? What part does it play in the economy? What evil consequences are likely to follow if it be either in excess or defect?

With our present knowledge of physiology the answer is neither difficult nor obscure. We may actually, indeed, be no nearer a solution of the mystery of what life is than men were in the days of Hippocrates. Nevertheless, we do now understand and appreciate more thoroughly those conditions which are essential to bodily health and sustained vigour. The conditions are, by the common consent of all who have paid attention to the subject, threefold. There is, first of all, the healthy condition of the muscular system; secondly, of the heart; thirdly, of the lungs. The two latter organs preside over the essential functions of the circulation or movement of the blood and respiration is its aeration. The muscular apparatus, the heart and the lungs, are the portions of the body most altered and influenced by exercise. They are those which suffer the earliest and the most from any deficiency of this necessary stimulus. The functional activity of all three are intimately correlated and interpendent. On the harmonious working of these three main factors health of body and of mind absolutely depend.

Here the question may be asked, What is muscle? Well, it is simply what is often called "flesh." Whether fish, fowl, or quadruped, all animals having a spine are composed essentially of a bony framework, of internal organs, and an outer covering of flesh. On a more minute examination, this flesh is seen to be made up of various separate and independent portions termed muscles. These are attached for the most part to bones by sinewy expansions, which latter are known as "tendons." It is by the alternate contraction and loosening of the muscles attached to the bones, as to levers, that animal motion is rendered possible. When a muscle is examined under the microscope, it is seen to consist of an infinite number of fibres or fasculi. These, in turn, are permeated in all directions by nerves and minute blood-vessels called capillaries.

Now, in order that a muscle may

perform work it must contract. This is done by altering its shape under nerve influence. It becomes thicker and shorter. At the moment of contraction it squeezes out a portion of the blood contained in its tissues. This blood is promptly carried by the veins to the right side of the heart. Thence it passes on to the lungs. It is there poured out in a very thin layer on to the walls of millions of minute air-cells, and so comes in contact with the atmosphere. From this it absorbs the required oxygen. The blood now passes from the lungs to the heart, this time, however, going to the left side of that organ. From there, brighter in colour and instinct with fresh life and potential energy, it again passes back to the muscle from which it started. Such, briefly, are the chief phenomena connected with muscular action, respiration, and circulation.

What exercise, then, does is, in the first instance, to increase the supply of blood to the group of muscles which are being actively exercised. They return it so rapidly to the heart that that organ finds its work materially increased. Its "beats," as we say, become more frequent. It necessarily discharges its blood more rapidly and in increasing quantity into the lungs. They, in turn, must inhale or draw in an extra supply of fresh air in order to provide the oxygen now needed. Hence exercise increases the number of respirations in any given time. If too rapidly increased, there is produced the condition commonly called "panting" for breath. In a word, then, exercise of any part increases directly its blood supply, and, indirectly, the action of the heart, the amount of fresh air inspired, together with interstitial charges of tissue.

Such, in its simplest physiological aspect, is what exercise is capable of doing.

The deficiency in chest movements is associated very commonly with heart weakness. The heart is, after all, only a hollow muscle, and it does its work like any other muscle by virtue of its contractile power. But if this be not duly exerted, after a time it becomes lessened. The walls of that wonderful organ become thinner and more flaccid. Its rhythmical contractions are no longer sufficient to propel the blood vigorously to distant parts. The individual, as a consequence, feels weak and weary, begins to look pale, and to find his digestion impaired and his sleep no longer refreshing. Then may follow a long train of untoward symptoms. One only need be especially mentioned here, and that is the tendency to grow fat. This fat is really a sign of organic decay. When a muscle becomes paralysed it does not at once waste away. It develops fat within its tissues. Instead of healthy cells, capable of doing work, we find oily globules or minute pellets of fatty tissue. When this fatty matter is deposited round the heart externally, or in its substance, it produces what is known as a "fatty heart." Such a condition is fraught with manifest danger. It is such cases which so often end in sudden death. The heart can then no longer respond to the effort which even a slight exertion may call upon it to make. It ceases to work, and the result is necessarily fatal. For this mere harmless exercise or a comparatively slight muscular effort is generally blamed. The heart stops in truth not because the exercise is too severe, but because the organ itself is abnormally weak.

A LAZY LAND.—There is no country in the world where so many people and such a large proportion of the total population live without doing any physical or mental work and on the earnings of other people as in India, says *The Hindu*. Nowhere else do priests and paupers constitute such conspicuous sections of society. There are nearly 2½ millions who call themselves priests or who otherwise make their livelihood from religion, and nearly 4½ millions of actual mendicants who render no religious service.

JOHN STUART MILL was an intimate friend of both Spencer and George Eliot. "Mill thinks the object of living is to learn and work," said Spencer, "but I think the object of learning and working is to live."

PATENT MEDICINES IN NEW ZEALAND.—The authorities in New Zealand are making an effort to require manufacturers of patent medicines to print their formula on the label. If a compound contains poison, the word poison must be written on the label.

HOW TO EXERCISE.

By "E. L. T."

I DO not believe that more than twenty per cent. of those people who practise Physical Culture derive any lasting benefit from it. Many do not exercise in a correct manner, and still more go at it by fits and starts, and naturally do themselves more harm than good. We are for ever having "concentration" drilled in our ears, and yet, though many chatter about it, few really understand what it means.

Prof. Mosso, an Italian physiologist, has invented a machine called the "Balance-Bed."

You lie on it, evenly balanced; think hard, and the blood going to your head weighs down one end of the balance. Imagine yourself skipping, and the other end goes down. This is the real basis of concentration. It is not making one muscle resist the other, as you do when you tense your arm in order to show what fine biceps you have. Certainly you generally concentrate your mind on your muscle when doing this, but you can concentrate your mind on any particular muscle without tensing it at all.

It is in connection with this tensing that so many have injured themselves. People seem to think that, so long as they use light dumb-bells, no harm can result. Never was there a greater mistake. The effect of using light dumb-bells, and flexing or tensing the muscles, is exactly the same as using heavier bells, and the strain on the system is quite as severe. It is not, however, for a moment to be maintained that it is bad to tense the muscles; the danger lies in tensing them too strongly.

Beginners in their efforts to follow out the dictum, "Put all you know into the movement," often tense their muscles to the point of strain. Needless to say, this is quite wrong, as the movements should be brisk and light for some time after commencing Physical Culture. The best exercises, however, are those which you take a pleasure in performing.

If your exercises are monotonous, and you get to regard them as merely a duty, the chances are that you will, sooner or later, shirk them altogether. Don't try and rush matters if you are delicate; you cannot hope to get perfect health in a few weeks.

Always be inclined to under-estimate rather than over-estimate your strength. Get out of your head that silly notion that if you put on a lot of muscle you are sure to get healthy.

D. L. Dowd was phenomenally developed from head to foot, and yet he died a comparatively young man.

Apollyon, formerly one of the strongest men in France, is suffering from a heart irreparably diseased.

There is, moreover, not the slightest evidence to show that abnormal muscular development is conducive to good health or longevity.

The seeker after health should regularly and systematically exercise his abdominal muscles, and pay great attention to lung development—not chest expansion—which can be satisfactorily accomplished by means of deep breathing. Here again a caution is needed. In many health magazines the following advice is often given:—"Inhale all the air you can, then make two or three attempts to inhale still more, and then slowly exhale."

Now, a beginner, following this advice of making attempts to inhale still more will be quite likely to strain himself, and although no serious damage is done, he will perhaps experience a pain in his chest for some weeks after, on attempting breathing exercises. It is quite sufficient to take in a long breath until the lungs seem full, and care should be taken not to harshly strain the lungs or muscles. The capacity of the chest

will gradually and surely increase without any forcing.

I think the next point worthy of notice is the advice given about opening windows. If you have been in the habit of sleeping with your window closed, and suddenly open it half-way down, you won't experience any intense exhilaration, but a bad cold. You cannot make these sudden changes; it is like a novice beginning to exercise with twenty-pound bells. You should be quite content with a couple of inches for a start. You may not think so, but it is the observance of all these little cautions that goes so much towards the acquiring of health and strength.

A great thing is not to get in the habit of thinking of your health too much, and if you are at all inclined to worry or be morbid, don't start reading up about diseases whose symptoms seem to resemble your own, or you will imagine you have every ailment under the sun.

Lastly, see that your bowels are moved every day, or you may as well abandon, here and now, every hope of being healthy. Neither time nor trouble should be spared in this matter. It is a complaint which in every instance can be remedied by the free drinking of water, careful attention to diet, and plenty of exercise.

IS OUR NATIONAL PHYSIQUE DEGENERATING?

By EUGEN SANDOW. (In *The Penny Magazine.*)

NOT for many years has there been such a stir in the athletic world as that created by the victorious career of the New Zealand football team. On all sides people are asking whether the defeat of one British team after another is due to the fact that the national physique of Englishmen is on the downward path.

That Britons are, on the whole, the finest examples of physical development in the world I am perfectly convinced; but I am equally sure that the modern love of sport, while it has led, and must lead to an improvement in national physique, is liable to impair the all-round development of the individual. The tendency of the modern athlete is more and more to specialise in one particular form of sport. He either goes in, heart and soul, for football, and practically gives up all other games, or heart and soul for something else, to the exclusion of the others.

The result of this is that his physical development is improved in one direction only, and certain sets of muscles become over-developed, to the detriment of the rest of the body. The primary essential of proper physical development is the strengthening and building up, not of a few, but of all the muscles; and this is equivalent to a storage of power and energy that will do far more for a man than the development of any one particular set of muscles.

The triumph of the New Zealanders I regard as the triumph of physical culture conducted on the right lines. Many members of the team have gone in for proper physical culture on systematic lines for several years past, and the result is that they are men of perfect all-round development with an immense storage of reserve power, and are not merely developed in one particular direction.

To come back to the fact of national physique, however, there is little reason to suppose, I think, that England is deteriorating in this respect. Health, fresh air, and sufficient exercise are the

best muscle-producers, although muscle-producing does not necessarily mean proper development. Health is undoubtedly of the first importance, and the trend of events in the direction of drainage, housing, and so on tends more than ever towards this. Fresh air is the next consideration, and the love of outdoor games, which appears to be hereditary in Britons, is a guarantee that they will have plenty of this as a rule.

In the matter of exercise we come to something which is frequently a stumbling-block to the man who seeks proper physical development. He almost invariably takes too much exercise. A little exercise, taken regularly and without over-tiring the muscles, is far more beneficial than heavy muscular work. The man who chops wood with a light hatchet will be a better specimen of physical development than he who wields his heavy sledge-hammer for hours at a stretch.

Among other nations Britain stands out almost alone in the matter of physical culture, and it is interesting to analyse why this is. Of European peoples, apart from British, the Germans are uniformly the best developed. This is brought about by two things—gymnastic training and conscription. Gymnastics form almost as important a part in the education of German boys as does the learning of their A B C, and it fits them out with a nucleus of muscular development which renders their bodies particularly sensitive to the training and discipline during the time they are conscripts, when they get plenty of open-air exercise and drilling.

In France, in spite of conscription, the same standard of physical culture is not found, owing to the absence of the early gymnastic training, and the result is a striking physical contrast between the men of the two countries. No other European nation goes in for out-door sports to the same extent that Britain does, although Sweden produces very fine specimens of mankind, because a certain proportion of the population are keen on sport.

Sport is the very essence of a Briton's life from the time that he is old enough to indulge in it, and in this lies the reason for his physical supremacy, as well, no doubt, as the supremacy of the nation in some measure. As regards the nations in other parts of the world, Japan stands alone in the matter of physical culture. The jiu-jitsu may be termed the national sport, and although it is not, in my opinion, the sort of exercise by which the best results are to be obtained, it is, at any rate, exercise which everybody indulges in, until the physical culture of the nation generally is leading it steadily to a position of greater importance.

Americans and Colonials are, after all, Britons; but in America, although there is plenty of sport and exercise, commercial activity is the national key-note, and too much hustling overtaxes nerves and muscles alike, producing an effect of tiredness and deterioration instead of stimulation and physical improvement.

As regards the national physique of Britons generally, although it is so good on the whole, it varies remarkably in different parts of the country according to the conditions under which men work. The fact is, that while well-developed men are produced in every part of England, their development is accomplished by different means according to where they live and the work they are engaged in. For instance, a man who does a lot of muscular work indoors may be no better developed than another who uses his muscles much less, but leads an entirely open-air life. This is very noticeable when one contrasts the workers in some of the Yorkshire and North Country towns, whose lives are spent in foundries and factories, where they have a great deal of heavy work to do, with those toilers of the field who live in the agricultural counties, and who, though they do none of that muscular work which is part and parcel of the former's life, may be just as fine specimens of humanity, owing to the ideal conditions under which their work is performed.

The secret is that nothing is more essential to proper physical development than plenty of fresh air. Some people are under the impression that the strongest men are to be found in those

districts where the heaviest kind of work is done. They think that if a man is forced to do hard, muscular work hour after hour, he is bound to become well-developed. The real fact is, that though hard work is good up to a certain point, yet when once that point is passed, it tends towards deterioration.

Miners who are engaged in hard work underground for many hours at a stretch would make far finer specimens of humanity if they performed the same labours up in the fresh air, and they would be finer specimens still if their working hours were shorter. The muscles of the body, if they are to reach perfection, should never be over-exerted. When a muscle is tired it should be rested for awhile, but the existing conditions of labour, of course, make it impossible for this little matter to be attended to, except in the case of navvies, who are generally exceptionally well-developed men. No navvy has ever been known to over-exert himself; if he is the least tired he leans on his pick or his shovel, and rests awhile until the overseer comes round to inspect his work. Consequently his muscles are not over-exerted, and, therefore, come near to perfection.

A SANDOW GIRL.
Using the Symmetrion.

Britain as a whole, however, is full of men of splendid physique, and since the love of open-air games is on the increase, if anything, national physical development must also be improving. As I have already stated, it is only in individual instances that deterioration is met with, and this is brought about by too much attention to one particular branch of sport, which develops one set of muscles to the detriment of the rest of the body.

If some picked English football team were to go through a course of all-round physical culture for six months, so much greater would be the strength and power stored in all parts of their body that I can guarantee that they would be as superior to the New Zealand team as that team is to the clubs it has defeated over here.

The Excitement of Election Meetings.

It is advisable to sound a note of warning in regard to election meetings. It is a proved fact that all excitement, prolonged or repeated, actually shortens the lives of those susceptible to its intoxicating effects, for intoxicating it is, and almost as harmful as strong drink or gambling. It is, nowadays, impossible to avoid excitement in some form or other, when the resources of modern times gives us excess to some new pleasure or experience, but its harmful effects can be at least minimised and warded off by the exercise of care.

"In ourselves the sunshine dwells,
From ourselves the music swells;
By ourselves our life is fed
With sweet or bitter daily bread."

ON AND OFF THE MAT.

— Jiu-Jitsu. —

THE other day I happened to be in Paris working. I had worked all morning and all afternoon and got myself into a fever of work, and I meant to work all the evening. I offered myself a little dinner, "plain but perfect," in a little restaurant, and I was just returning to my task of exciting the British public when I met a war correspondent. "Come along with me," said the war correspondent, and see the great Jiu-Jitsu match between the French-Japanese champion and the English-Japanese Champion." "Impossible!" I said; "I'm working." "What does that matter?" inquired the war correspondent. I began to explain to him the unique importance of my work in the scheme of things, and how I always kept faith with myself, and so on. But he merely said that he had been at Cambridge with the "manager" of the English-Japanese champion, and that I should be presented to the said champion, and have a free seat on the stage, and generally be treated like a Russian Archduke. And, in the result, although he informed me that the match would not start till half an hour after midnight, a time when all respectable novelists are in bed, I agreed to go. And since I am determined in these articles to hold the mirror up to nature and not be afraid of what I see there, I will tell you my secret reason for agreeing to go. London and Paris are simply running crazy about Jiu-Jitsu just now; one hears of nothing else; and I went solely in order that whenever the subject happened to come up in conversation I might be able to mention with a casual air that the English-Japanese champion was a friend of mine, and that, etc., etc.

About midnight, therefore, I found myself behind the scenes of the largest "temple of amusement" in Paris, and one of a select and self-important group trying to explain to the London champion in English and French what the rules of the match were to be. Then we rushed him upstairs (mysterious, dark, dangerous stairs) and undressed him and dressed him, and shook hands with him, and wished him luck in a manner which I gather is compulsory on these occasions, while he smoked incessantly cigarettes (a peculiar method of training, thought I!) and smiled the eternal smile of the Japanese. All the time I was saying to myself: "What are you doing here? You ought to be at work? We gradually became surrounded by "sportsmen" and "amateurs." I learnt that the greatest luminaries of Paris were encircling me, even to members of the Jockey Club—persons whose names are breathed with awe. Mr. Frank Bostock, the celebrated lion-tamer, said it was the most representative gathering ever seen in Paris. But I don't think he had me in mind. What chiefly impressed me were the officials—nice chubby men, so sleek, and fussy, and rosy—who evidently have a new dress-suit and a new silk hat every day of their lives, and who can flourish a whisky-and-soda in their gloved chubby hands with a gesture that is my despair. . . . . I was forgetting about my work.

Then we went on to the stage and faced an audience of several thousands of people and an orchestra of several thousand horse-power. A solemn moment! I had quite forgotten my work. I had, in fact, perceived that the importance I attached to my work and the work of people like me was grotesque. Here I was amid a group of some scores of the Brahmins of the world of sport, people who lived utterly different lives from mine, who probably never thought the same thoughts as I think, who would probably have carelessly glanced at me (had they known my

trade) as at a wild and harmless animal escaped out of a cage, and yet who were just as much the inevitable product of their individualities and their environment as I was the inevitable product of *my* individuality and *my* environment. I saw clearly that the most important thing in the universe was Jiu-Jitsu wrestling, and that hitherto my perspective had been all wrong. Here was a whole cosmos exciting itself about Jiu-Jitsu. Indeed, within a very short period, the cosmos was positively passionate about Jiu-Jitsu. For in two minutes and a half the London champion had incapacitated the Paris champion—had apparently come near to killing him—and Paris didn't like it. The Parisian sporting crowd, which in some respects, unhappily, resembles a Sydney cricket crowd, shouted "Foul play!" and began to rain down footstools and other too, too solid things upon us defenceless occupants of the stage. We fled.

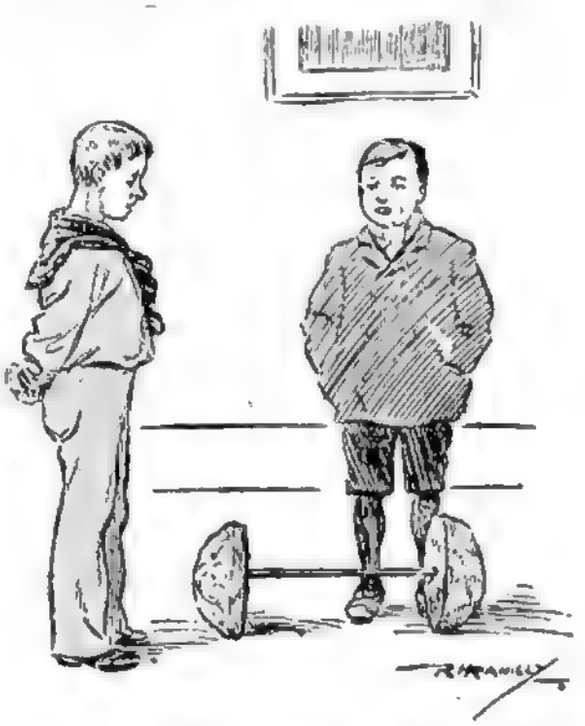
And all this pother about Jiu-Jitsu! For an hour afterwards the vast regions behind the scenes were animated by knots of experts frantically discussing whether there had or had not been a foul. One saw beautifully-dressed men, silk hats and all, lying on their backs and kicking their legs in the air to illustrate a theory of Jiu-Jitsu. And this went on and on, and no one seemed to get tired or to think of time. "Do you know it's two o'clock in the morning, and that I ought to be in bed?" my face said to them. But they took no notice.

At last I collected my war correspondent and drove him out of the establishment, and we were on the foggy, frosty boulevard. With the sensation of having been a dog, a night-bird, a sportsman, a card, and a *viveur*, I achieved my bed. I forget how many years it is since I went to bed so late. My work was in arrear; I had broken faith with myself; I knew I should sleep badly; I knew I should be fit for nothing in the morning. Yet I was glad I had been to the Jiu-Jitsu scrap, and mingled with the Brahmins of sport, and met lion-tamers, and had footstools thrown at my poor literary head. I was very grateful to my war correspondent, for he had dragged me violently out of my groove, and I sank back into it feeling that though it was not a bad sort of groove, there were others quite as genuine and much more picturesque. I had realised that the world does not consist exclusively of novelists, journalists, painters, and musicians. These persons have not got a monopoly of earnestness, sincerity, and vigour. I saw my work in a new light! I saw it diminished for a space. I shall not go in for Jiu-Jitsu. I shall emphatically never lie on my back and kick my legs in the air for any purpose whatever. But what I shall do is to get out of my groove rather more frequently—get out of it with a certain violence. It seems to me to be rather a good plan.—By ARNOLD BENNETT, Author of "The Savoir-Faire Papers," in *T.P.'s Weekly*.

How glorious a thing it is; the consciousness of doing good!

Scattering sunshine in dark places of sorrow and suffering.

On his broncho pony, a nineteen-year-old cowboy recently rode 1,000 miles in nineteen days from a ranch in Kansas, says the *New York American*, to see his father in Chicago.



1ST BOY: "*That's nearly as heavy as your brother Will's barbell.*"

2ND BOY: "*Yes, and it's only my sister's first attempt at a Xmas cake—cut in two with a broomstick.*"

Sandow Magazine Readers' Club.

President - - EUGEN SANDOW.

Motto:—**One may Help Many.**

For the exchange of ideas, personal experiences and photos for the encouragement of Club Members. Every Reader is a Club Member.

Readers are expected to act up to the Club Motto, and for services rendered the President will award to the sender of every published idea, experience or photo, the Club Fellowship Medal as a token that the rightful owner has earned the Fellowship of the Club.

Once a month the names of newly-admitted Fellows will be published under the head of "The Fellowship Roll."

Those already qualified as Fellows and who send further contributions will have attached to their names figures denoting the number of occasions on which they have assisted the Club, thus:—Alfred James (*5), Birmingham (meaning that this is Mr. James' fifth occasion of assisting the Club).

Younger and Stronger at 50 than at 40.

Kingland, Cornwall,
1st Jan., 1906.

DEAR SIR,—As a reader (and a proud possessor) of SANDOW'S MAGAZINE from Vol. 1, No. 1, to the current issue, I think I may fairly claim the privilege of membership in the Readers' Club. Will you permit me, as a first use of that privilege, most cordially to wish you and all my brother members a very Happy New Year?

Hitherto, I have refrained from inflicting my personal experiences upon other "Sandowites," feeling that they were probably identical with those of many hundreds among the followers of the system. The remarks of our Senior Fellow, however, in his interesting letter published on the 30th November, tempts me into an endeavour to endorse and emphasise what I take to be the main point of his communication, namely, the value of the Sandow System, not for "muscle-piling," nor for the establishment of records in weight-lifting, etc., but as a means of establishing and maintaining sound general health throughout the whole of the human body.

Like Mr. Kenyon, I never was an athlete, though, luckily at school and university, and for some dozen years afterwards in London, there was just enough of the natural love of out-door exercise, especially sculling, swimming, and cycling, to rescue from the ranks of what Mr. Eustace Miles would class as "duffers." As time went on, opportunities seemed to grow fewer, and by the time I reached 40, symptoms of middle age were not wanting. Rheumatism was one, shortness of breath when running to catch a train, or hurrying upstairs, another (my heart has always been perfectly sound), and there was an increasing lethargy—which my friends would call laziness—and disinclination for any violent exercise. Things went on like this for some years longer, and it was not until 45 years old that, moved by what I read in paragraphs and advertisements, I bought a pair of Grip Dumb-bells, then (1899) a rather new idea. The effect was slow at first, as might have been expected, but none the less sure. After using the bells constantly for about two years I added the Developer, and my rate of progress at once very considerably increased. Unfortunately, through ignorance and lack of system, I omitted to secure either measurements or photographs at the commencement, so cannot give a complete record of improvement, but the net result was that, at the age of 50, I was physically younger, stronger, better developed, and in [illegible] better health than I had been at 40. All the symptoms above mentioned had disappeared, and a life-long proneness to severe and protracted colds in winter had almost entirely vanished. Is not that last alone worth any amount of effort?

My only grievance now is that the systematic measurements, which I have at last learnt to make, have no longer a standard of comparison, as the Anthropometrical Chart stops its [illegible] table at 50, and I, alas, am 51!

Appended is a list, which you will probably not think worth printing, of measurements taken in May, 1905; with the important exceptions of chest and arms, they seem to be fairly close to the average as compiled from the chart.—Yours truly, W. ASTON-LEWIS.

Age 50			
Weight (strpd.) 12st. 11lbs.	Fore arm .... 12 inches.		
Height .....6ft. 2½ inches.	Hips ..... 40 "		
Chest (con.)... 36½ "	Thigh ..... 21½ "		
Chest (exp.) ... 40 "	Calf ..... 15 "		
Waist ..... 34½ "	Ankle ..... 9½ "		
Upper arm ... 13 "	Neck ..... 15½ "		

Darlaston, Staffs.

DEAR SIR,—I wish to write a few lines to you because I am so much taken up with your magazine. I have been practising Physical Culture for four months only, and I can truthfully say that my improvement, both in health, strength, and development, has been nothing short of marvellous.

I never did anything at Physical Culture till I started with Sandow's competition in *Answers*. Before then I could hardly raise 20 lbs. above my head with one hand; now I can raise nearly 100 lbs. The dumb-bells that I do exercises with are 40 lbs., and it is only a toy to me. I can also lie on my back and raise 125 lbs. off my chest to arms' length; take it over the back of my head and bring it back again.

The photo. enclosed was taken before Christmas, and I started Physical Culture in September, four months previous. Although I am not a Sandow, yet all say my development is fine in the time; for before I started I had not got muscles as big as a schoolboy; they looked the same almost when contracted as when they were normal. I might say that I did not strain on the photo, for I could not. It was a very dull day, and I had to stand perfectly still for above a minute. My measurements are:—

Neck	15 ins.	Waist	30 ins.
Chest (contracted)	34½ ,,	Thigh	22½ ,,
Upper arm	13½ ,,	Calf	14½ ,,
Forearm	11½ ,,	Height	5 ft. 10 ,,
Chest (expanded)	37½ ,,	Weight	12 stone 6 lbs.
Hips	,,		

Your magazine is a "gem." I cannot get it early enough, so I have enclosed money for a year's subscription.

J. D.

How I Became a Vegetarian.

Westcliff-on-Sea.

DEAR SIR,—It is hardly necessary to explain to my fellow readers that vegetarianism does not necessarily mean an exclusive diet of vegetables. As a matter of fact, the writer cares as little for vegetables (tubers, etc.) as for meat. It is now generally understood that vegetarianism is complete abstinence from food obtained by slaughter.

Good health—how often we declare this to be greater than wealth, yet how few devote more than a passing thought to a consideration of the principles that govern health.

A reader sends this photo. anonymously as a picture of what Physical Culture will do for the middle-age man.

A few years ago the writer endured abominable bad health. Every quack remedy of any repute was tried. Sometimes the so-called remedy seemed to restore vigour and apparent good health, but the feeling of well-being was but transitory, and, the old remedies losing their effect, fresh ones were tried, with varying results, till at length I became reduced to so low a state that my system refused to respond to even the strongest purges, and life to me was, indeed, a misery, and existence a mere shadow of life.

At this time it was continually dinned into my ears by Physical Culturists of my acquaintance that my constitution was being ruined by so large a use of drugs. At last, seeing there must be some truth in the arguments, I was persuaded to adopt a systematic form of exercise. I soon felt some benefit from this change in my habits, but was still subject to constipation, and compelled to resort to purges, though these were not so strong or frequent as formerly. I also still suffered from excruciating attacks of neuralgia, and continued to be a martyr to insomnia.

During this time, a friend prevailed upon me to make some alterations in my diet, such as substituting brown bread for white, eating more fruit, and drinking large quantities of water.

This further change brought more encouraging relief, materially lessening constipation, but I was still subject to violent attacks of neuralgia, so resolved to try some further experiments. My friends endeavoured to dissuade me from taking meat and stimulants, such as tea, etc., but I was firmly convinced, however, that I could not maintain even passable health and strength unless meat formed a part of my dietary. On the other hand, I was convinced that tea and other stimulants were partially the cause of my nerve troubles. Yet my system so strongly called for a stimulant in some form or another that I found it difficult, nay, almost impossible, to do without it. Subsequent experiments have proved that where a meat diet is followed, a stimulating beverage of one kind or another becomes an accompanying craving of the system.

My interest now being thoroughly aroused, I read every work on hygiene or dietetics that could be obtained. I read many conflicting opinions, but one fact stood out clearly, and it was that nearly all who had made a special study of diet in its relation to health declared, in no measured terms, that meat had a harmful effect upon the human system. Therefore, as an experiment, I resolved to eat but a small quantity of meat.

The occasions upon which I ate meat became gradually more rare as the experiment proceeded, until at length I found, quite to my own surprise, that I was living upon a vegetarian diet.

The new diet seemed to agree with me, and I determined to continue it as an experiment for three months. That I was a vegetarian during this time I kept a secret from my friends, and even my relatives. It was well that I did

so, for at the end of four or five weeks I had a most violent bilious attack, and if my friends had known that for some weeks my diet had been regulated in accordance with vegetarian principles, I am afraid their sophistical reasoning and ridicule would have turned me from my purpose. But, not being aware that I was striving to discover the root causes of some of my digestive troubles, they gave me nothing but sympathy—and advice.

For two days my stomach rejected everything in the way of food. In desperation, I resolved to follow the advice of those whom I then thought cranks, and fast for a few days. After two days' fast my natural appetite returned, and since that time, which is several years ago, I have taken no meat, and, having no desire for tea or other stimulants, I very rarely take them, my stable beverage being water, as nearly pure as the companies will supply.

My health has immeasurably improved. I now feel a pleasure to live. There is not even a suspicion of constipation, neuralgia, and insomnia, being quite a thing of the past. Another striking fact is that, at no time since I first commenced my experiments in vegetarian diet, have I taken medicine of any kind.—P. P.

[My correspondent, on being questioned as to the character of his dietary, stated that for breakfast he usually partook of bread and milk and bread and butter, and sometimes an egg. Dinner, shredded wheat biscuit and milk and fruit and nuts. Tea, bread and butter and milk, and again sometimes an egg. No supper, and always brisk walk before retiring.—THE ED.]

His Way.

Almond Bank, Perth.

DEAR EDITOR,—As the Readers' Club is for the exchange of ideas, one occurred to me the other night as I was giving myself a rub down after exercise.

I wondered how many of my fellow Readers were doing the same, and then I thought it might be possible to have an average work-day diary. To explain to you, I will show you what I mean. I rise at a quarter past five, go off to the river, have a dip, then home again and prepare to start work at six.

I am employed in one of the departments of a bleachfield, at Messrs. Lumsden and MacKenzie's. This Mr. Lumsden is coming to the front as a breeder of "Short Horn" cattle, and Mr. MacKenzie is the great breeder of Shetland ponies. He is known the world over.

As I said, I commence work at six, and go on till nine, then home to breakfast, back again at ten, and work till two, and then dinner. Back again at three, and then finish for the day at half-past five.

In the evening, in summer, I have a garden to attend to, being in the country. I also cycle. Am fond of music. I play the piano, but in winter the evenings are spent more in music and reading; but I always finish every day, summer or winter, with dumb-bells and developer, etc., alternate nights, and finish off with a cold sponge down.

Now, I do not know if this will interest you or not, but I think you will get a vast amount of information which you would not get so easily in any other way.

For my part, it would interest me very much to know how a colonial chap spends his days, and I have no doubt that it would strengthen the bond of fellowship formed by the Readers' Club.

As far as my day goes, I have about struck the average, but at any rate I hope you will not think that I wish to force my suggestion on you. I desire to help in my own little way, and try and repay some of the good I have got from the Sandow system.

As far as health goes, I do not see the person I would exchange with.—Yours sincerely,

WM. TURNBULL.

[There is no such thing as an average "day" that would suit all. In a recent article in the Magazine—dealing with the "Back to the Land" question—I endeavoured to make it clear that each man has temperamental inclinations of his own. One man likes the town, another the country; one the sea, the other the land. Think of all the stepping-stone degrees of difference between these widely-separated opposites. The only advantage in reading other people's ideas and experiences lies in the opportunity of indulging our temperamental inclinations—amending them somewhat, perhaps. The reader gleans each his own harvest from the idea of experiences of others.—The ED.].

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20 Barrack-street, Hamilton.

December 13th, 1905.

DEAR SIR,—Seeing in the last number of your magazine that you invite your readers to correspond with you, I take the liberty of writing and asking your opinion of the measurements of my brother-in-law, as I consider them great for his age. In fact, I think that his equal would be difficult to find; but you will know. He came to reside with me last September, and being a follower of your system of Physical Culture, I got him to take it up. We use your spring grip dumb-bells. I send you his measurements when he started, and you will see the great benefit he has derived from your system for the short time he has been at it:—

	September 4th, 1905.	November 26th.
Height	5 ft. 10 inches.	5 ft. 11 inches.
Weight, 13 stone (not stripped).		13 st. 3 lbs.
Neck	15½ inches.	16½ inches.
Chest (normal) ...	37 "	40 "
Chest (expanded) ...	40 "	44½ "
Upper arm, right ...	11½ "	12½ "
Forearm, right ...	11½ "	11½ "
Upper arm, left ..	11½ "	12½ "
Forearm, left	11 "	11½ "
Waist	29½ "	30½ "
Hips	37½ "	40 "
Thigh, right ...	22 "	24 "
Calf, right	15 "	15½ "
Thigh, left ...	21½ "	24 "
Calf, left ...	15 "	15½ "

His age is 18 years and 11 months.

I should be much obliged if you would also give me your opinion of my two little boys' measurements. I started them at your exercises last October, and I am surprised at the difference in that time. I can only give you the youngest one's measurements for November 12th, as he has had measles and a sore foot since that time, which has put him back a bit:—

October 1st, 1905		December 9th.
Height	3 ft. 7½ inches	
Neck	10 inches.	10½ inches.
Chest (normal)	22 "	22½ "
Chest (expanded)	23 "	23½ "
Upper arm, right	6½ "	7 "
Forearm, right	6½ "	7 "
Upper arm, left	6 "	6½ "
Forearm, left	6 "	6½ "
Thigh, right	12½ "	13 "
Calf, right	8½ "	8½ "
Thigh, left	12½ "	13½ "
Calf, left	8½ "	8½ "
Waist	21½ "	21½ "
Age, 6 years and 1 month.		

October 1st, 1905		November 12th.
Height	40½ inches.	
Neck	10 "	10 inches
Chest (normal)	21 "	22 "
Chest (expanded)	21½ "	22½ "
Upper arm, right	6½ "	6½ "
Forearm, right	6½ "	6½ "
Upper arm, left	6½ "	6½ "
Forearm, left	6½ "	6½ "
Thigh, right	12 "	12½ "
Calf, right	8½ "	8½ "
Thigh, left	12 "	12½ "
Calf, left	8½ "	8½ "
Age, 4 years and 9 months.		

I am highly pleased at the great improvement in your magazine this few weeks back. I will close now, thanking you in anticipation, yours truly,

D. FOTHERINGHAM.

This Reader Knows what he Wants, and Asks for it.

Rugby.

DEAR SIR,—Please accept my hearty good wishes for a prosperous New Year, and a long life to your deservedly popular magazine.

As a keen reader since the spring of 1899, I would like to congratulate you on the recent improvements in the "Pioneer Physical Culture Paper," which now promises to rival in quality the excellent monthly of, say, four to six years ago. The increased attention given to all-round athletics is very welcome.

I venture to approach the editorial sanctum with a few humble suggestions (three)—not wholly new!—for features which I, and possibly many others would hail with satisfaction.

(1) A *more* comprehensive list of fixtures for Athletic Sports, Gymnastics, Competitions, and Displays, etc.

(2) Illustrated articles dealing with the *functions* of the chief superficial muscles, and the action of these muscles when involved in movements of various kinds, commonly occurring in gymnastics and games; articles, for instance, on the lines of your "Artistic Anatomy" (1901-2), "Popular Papers on Physiology," and "Dr. Pryce Jenkins," "Mechanism of Movement," etc., etc.

(3) Series of articles on "Jiu-Jitsu," similar to the excellent ones recently published in your magazine on Boxing, Club-swinging, Fencing, Wrestling, Swimming, etc. Jiu-Jitsu most certainly calls for a scientifically developed muscular system, giving the necessary great protection to joints and vulnerable parts, and your splendid system is obviously well adapted for that desideratum.

If you are not already wearied by my importunities, may I trouble you with a physiological query. On page 608, No. 128, Dec. 14th, 1905, part of a very interesting paragraph reads thus: ". . . The work performed by the mere vital processes of the human body every 24 hours amounts to lifting 3,400 tons." Here the weight and time are given, but no HEIGHT; so that the amount of mechanical WORK performed is not, apparently, capable of estimation after all?

Should you not think my letter outside the scope of your pages, a reply would be greatly appreciated by—Yours faithfully,

"ATHLETIC."

Now, here is a most interesting letter albeit one that takes more of my time than most of the letters I receive to answer in my magazine.

My hearty thanks and best wishes for "Athletic's" kindly wishes and congratulations on improvements since I have taken up the editorial reins. I am gradually getting my magazine to look something like what I want it to be, though it is yet far from what I will make it.

No. 1. I will arrange for a Diary of Physical Culture, Gymnastic and Athletic Competitions and Displays. Readers should send in particulars, marked "Diary," and they will then soon be able to turn to the pages of the magazine, and be sure of seeing a programme of forthcoming events likely to appeal to them.

No. 2. I am arranging for articles along these lines by the best of writers and artists, as also in sympathy with No. 3.

With reference to the physiological query, I believe the weight to be lifted one foot from the ground—this being the usual computation measure. The height would be that of an average man—5 ft. 7 in.—THE EDITOR.

10, Kew Road, Birkdale, Southport.
December 18th, 1905.

DEAR SIR,—As per your announcement in "Notes" of your magazine, I herewith send account of why I took up Physical Culture, etc.

In the first instance I feel very grateful to the person who first induced me to take up Physical Culture, and below I will try to explain how I became to be interested in same:

I left Birmingham in 1902, and came to Southport (which is the ideal seaside resort of the North), where I was apprenticed to the stationery business. The head of this department, I soon discovered, was a follower of Mr. Sandow, and trained on his system, so he therefore advised me to take up a course of exercises which he assured me would improve my physique wonderfully. In the meantime I bought a Sandow Developer, and "Strength and How to Obtain it" (in the second edition of which I was pleased to see a photograph of myself taken in 1903). In the latter I read of many wonderful achievements in health and body-building by Mr. Sandow, so I concluded that if he could bring back to health and strength a weakling, who was so fatigued with a pianoforte solo, as was the pianist Martinus Sieveking, he could, through a course of training, benefit me.

I was not far wrong, for after a few weeks' exercising I seemed more buoyant than previously, although at first I was rather stiff, but this soon wore off. I began to study the anatomical part of the body, the names of each muscle being defined on the charts.

I had been exercising for about six months when, at Southport Working Lads' Club, of which I am a member, Mr. E. H. Wood, a well-known local instructor of the "Sandow System," offered a gold medal for the best developed lad in the club. A friend advised me to enter for this, but at first I was reluctant, and I told him that I should stand very little chance of winning, as the other competitors were of a much heavier build, etc., than me. At last he persuaded me to enter, and I do not regret 't now.

The first thing we did was to go to Mr. Wood's rooms, where he examined, measured, weighed, and then gave us a course of written instructions which would help to strengthen our weak points. Thus we started on a course of three months' training.

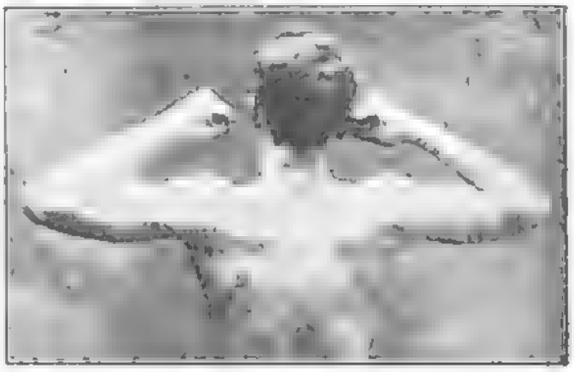
My friend and I both having Sandow Developers, he came to my room, where we exercised daily for about three-quarters of an hour each night, and afterwards had a cold bath and a brisk rub down.

The night of the final arrived and all of us were arranged in a semi-circle, where we had to pose and flex the various muscles, all of which the judges noted. Our hearts and general condition were also noted.

When the result was announced I, who was so reluctant at first, was most surprised to find myself judged the winner of the coveted prize, my development being the best in proportion to my age and weight.

I have exercised regularly nights since this success, and when I read of the competition in your magazine I decided to enter.

Once more my hobby stood me in good stead, for I was delighted to see my photograph published in the magazine as a winner of the March Competition for under 18 years of age, for which I received *Sandow's Magazine* Gold Medal, a trophy which I greatly prize.



J. DAVIES (WALSALL), AFTER 4 MONTHS' TRAINING.

My age is now 18 years, and by the list of measurements below you will be able to get an idea of the progress I have made from December, 1903, to February 9th, 1905, the latter being the last time I was measured:—

	December, 1903.		Feb. 9th, 1905.	
Neck	14	inches.	15½	inches.
Waist	27½	,,	28½	,,
Chest (contracted)	34½	,,	34½	,,
Chest (expanded)	39½	,,	41½	,,
Upper arm, right	12	,,	13½	,,
Upper arm, left	11½	,,	13	,,
Forearm, right	11½	,,	12½	,,
Forearm, left	11	,,	12½	,,
Thigh, right	20	,,	21½	,,
Thigh, left	20	,,	21½	,,
Calf, right	14½	,,	14½	,,
Calf, left	14½	,,	14½	,,

When I won *Sandow's Magazine* Gold Medal, Mr. W. H. Stephenson, who is a friend of mine, asked me if it was worth his while competing for this medal. I advised him to have a try, so he fixed up a room for exercising, where I went at night to give a little encouragement and advice (as I had picked up a few wrinkles from Mr. Wood as to the way to exercise properly), the result being that after about six weeks' training he was declared winner of your May competition.

I have done my best to introduce Physical Culture among my friends, and the rowing crew belonging to our Sunday school, for which I row bow trained on your system last season.

I may say that here in Southport there is an association called the Southport Sunday School Rowing Association, in which only members attending Sunday schools may row, and I think this is a grand recreation in summer, for now boys who are members will be able to get this beneficial exercise, which will prove a physical boon to them.

Our crew, which is a very appropriate name for any young club, *i.e.*, "Trafalgar" R.C., have been rowing three seasons. The first season we were beaten in the final race by half a length, the second we won the cup, and last season we were beaten by inches in the semi-final. The exercise I find to suit me most for rowing are exercises No. 23 and 24 on the Developer Chart.—Yours faithfully,

THOMAS WRAY.

Questions and Answers

— AND —

Hints from Sandow.

ALTHOUGH I have opened these pages for the purpose of coming into closer touch with my friends and readers, you must remember that space is limited, and I *cannot* prescribe courses here.

All communications relating to instruction by post should be addressed to me at Basing House, Basinghall Street, E.C., and these will receive prompt attention.

Ordinary replies cannot be answered by post.

J.D.B. (BRONDESBURY PARK, N.W.) writes: I am studying your book—"Strength, and how to Obtain It," and have decided to take in your valuable magazine in order to improve my physique. I have been told by several people that going through a course of dumb-bell exercises is likely to stop my growth, and not to promote it. I am 18 years old, and my height 5 ft. 7 in. Will you tell me (in Q. and A.) if you think that I can increase my height by going through with your dumb-bells or developer? Can you also say of something to increase the measure of my neck and legs (not calves)? If so, I shall be truly grateful. Wishing you all success.

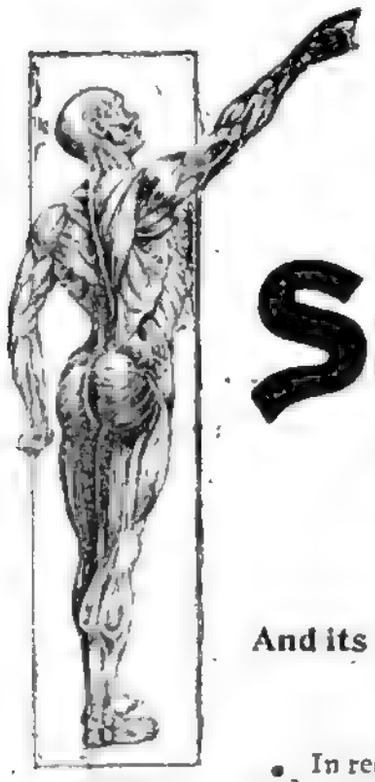
Answer: There are many ridiculous ideas about even in these days of popular education, especially in regard to physiological matters. Physical development means increase of both size and strength of the physique, and height must increase with breadth and depth—in short, there must result all-round improvement. Inform your mistaken friends that they require to study physiology, if nothing else, to complete their education. At 18 years of age there is great possibility of your increasing your height. Go through the general exercises on the charts which accompany my Developer and Grip Dumb-bells.

"CLERK" (DUNDEE) writes: "Is there any form of Physical Culture or treatment which will cure varicose veins in the legs of a man?"

Answer: Varicose veins are rarely cured when they exist in an advanced condition or are of long standing. The veins in such cases seem to have lost the power of recovering their former elasticity and contractibility. Surgical operations are sometimes performed in advanced cases, but I have had widely differing reports as to the results of these extreme measures. On the other hand, the merely negative passivity enjoined in the advice to wear elastic stockings (I am assuming my correspondent does not refer to varicocele) is not as welcome as would be a more positive policy leading to relief and cure. "Clerk" had better see a local medical man if his varicose veins are troublesome. If they are not troublesome, relief may be obtained by bathing morning and night with cold water and vinegar, as also by giving the legs rest and relief from constrained standing positions. Standing in one position is far worse than the active exercise of walking, which stimulates the circulation, and thus relieves congestion. Physical Culture will help in the same direction, especially so if "Clerk" is weak, undeveloped, and more or less debilitated. In the latter event, it is more than possible that Physical Culture would so permanently stimulate and strengthen the system as to restore the necessary contractibility to the congested and relaxed veins.

ENQUIRER (GLASGOW) asks what are the fundamental principles of my system of Curative Physical Culture.

Answer: (1) Exercises requiring a minimum of time, with a maximum of effect,



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INVITATION TO INVESTIGATE.—If you are a sufferer from any of these illnesses you, too, can be cured quickly and permanently. The treatment entails no inconvenience, and is endorsed by leading medical men.

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NERVES.

mentally as well as physically. (2) Corrective movements designed to counteract the effects of improper posture and to make possible proper posture by developing equal and harmonious muscular development and control of the spine, thorax, and scapulæ. (3) Scapular exercises securing development of shoulder and upper back muscles. (4) Spinal exercises involving the large group of muscles supporting the spinal column. (5) Respiratory exercises improving the activity of thorax muscles. (6) Vital exercises—designed primarily to improve the organic processes of respiration, circulation, digestion, assimilation, and excretion, the proper co-ordination of these vital functions securing the development of vitality.

J. J. S. (STAINES): Having recently purchased one of your Developers and a pair of Grip Dumbbells, from which I have already received great benefit, I should very much like to know (1) what my measurements should be, corresponding with my age and height, so that I can work up the parts most needed to gain perfection. I should be very much obliged if you would also tell me (2) if I am too tall for my age, and (3) if a tall person stands the same chance of obtaining great muscular development as a short person?

Answer: (1) There is no hard and fast scale of measurements, as every man has an attainable standard peculiar to himself; were it otherwise we should more closely resemble one another. (2) You are fairly tall for your age (17½), but some people do not grow much after 18, *i.e.*, in height. (3) No; a tall person does not stand quite so good a chance of muscular development as a short individual. The latter's tendency is more in the direction of good bulk for height than the taller person.—This answers N. S. (Glasgow) and others.

E.P. (HENDON, N.W.) and J.S. (SUNDERLAND) and others ask (1) where copies of the book by Geo. Elliott Flint, entitled "Health and Power through Progressive Exercise," can be obtained. E.P. also (2) desires to know the most comprehensive work on wrestling.

Answer: (1) At present it is not on sale in this country. I will endeavour to obtain copies for sale to readers, who will be able to discover when it is in stock by reference to "Our Readers' Library" on advertising pages. E. P. says: "I much appreciate the improvements lately made in the Magazine." (2) There was a very good book, with hundreds of photo. illustrations from life, by Leonard, of New York; but it is now out of print. The publishers may reprint, when the publication will again be included in "Our Readers' Library."

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